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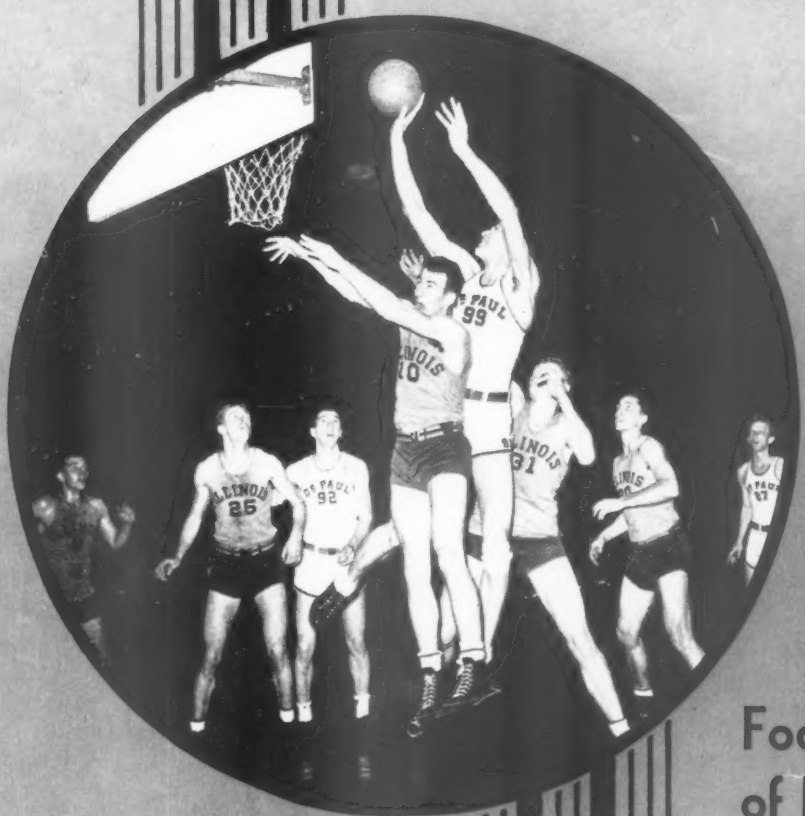


Footwork and Co-ordination of Play Around Second Base

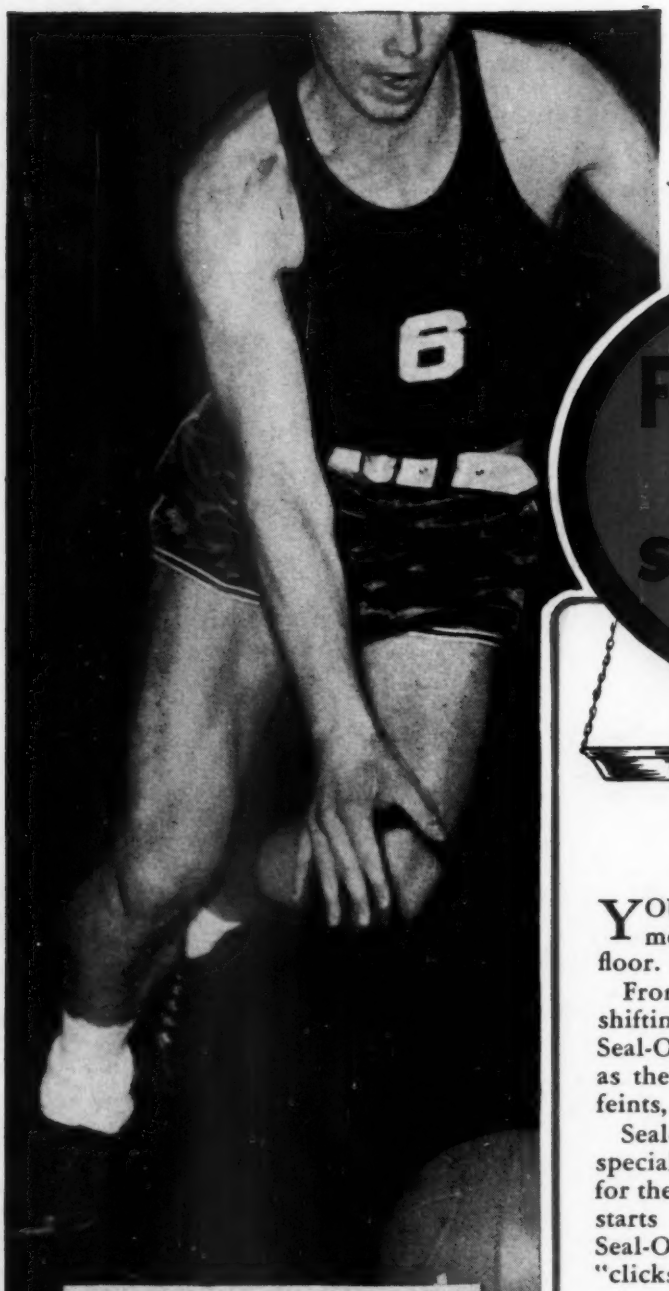
H. S. De Groat

The Track Coach's Duties in February

T. E. Jones

Boxing Department Facilities and Safety Gear

Max Marek



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VOLUME XXV

The ATHLETIC JOURNAL

NUMBER 6

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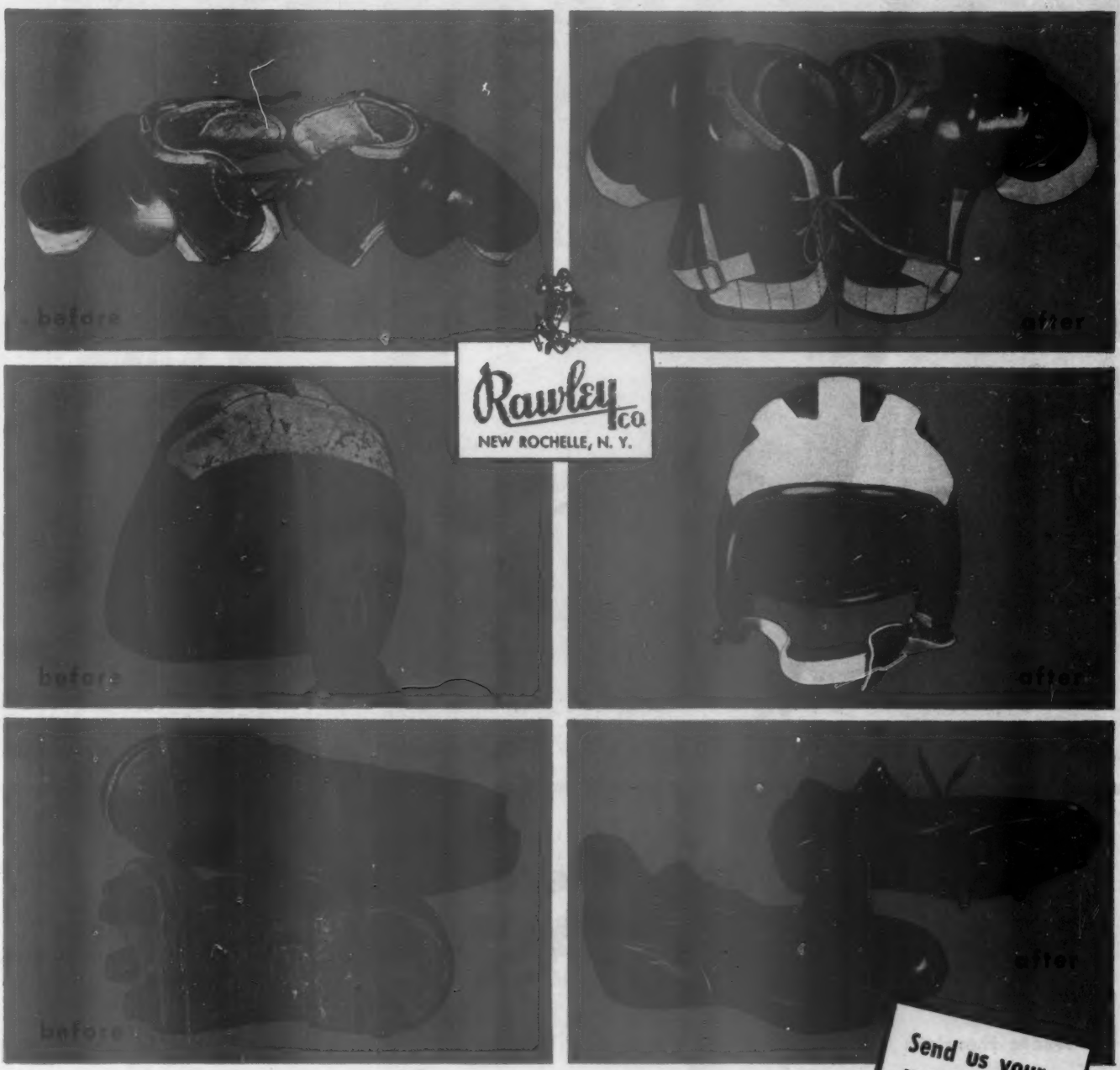

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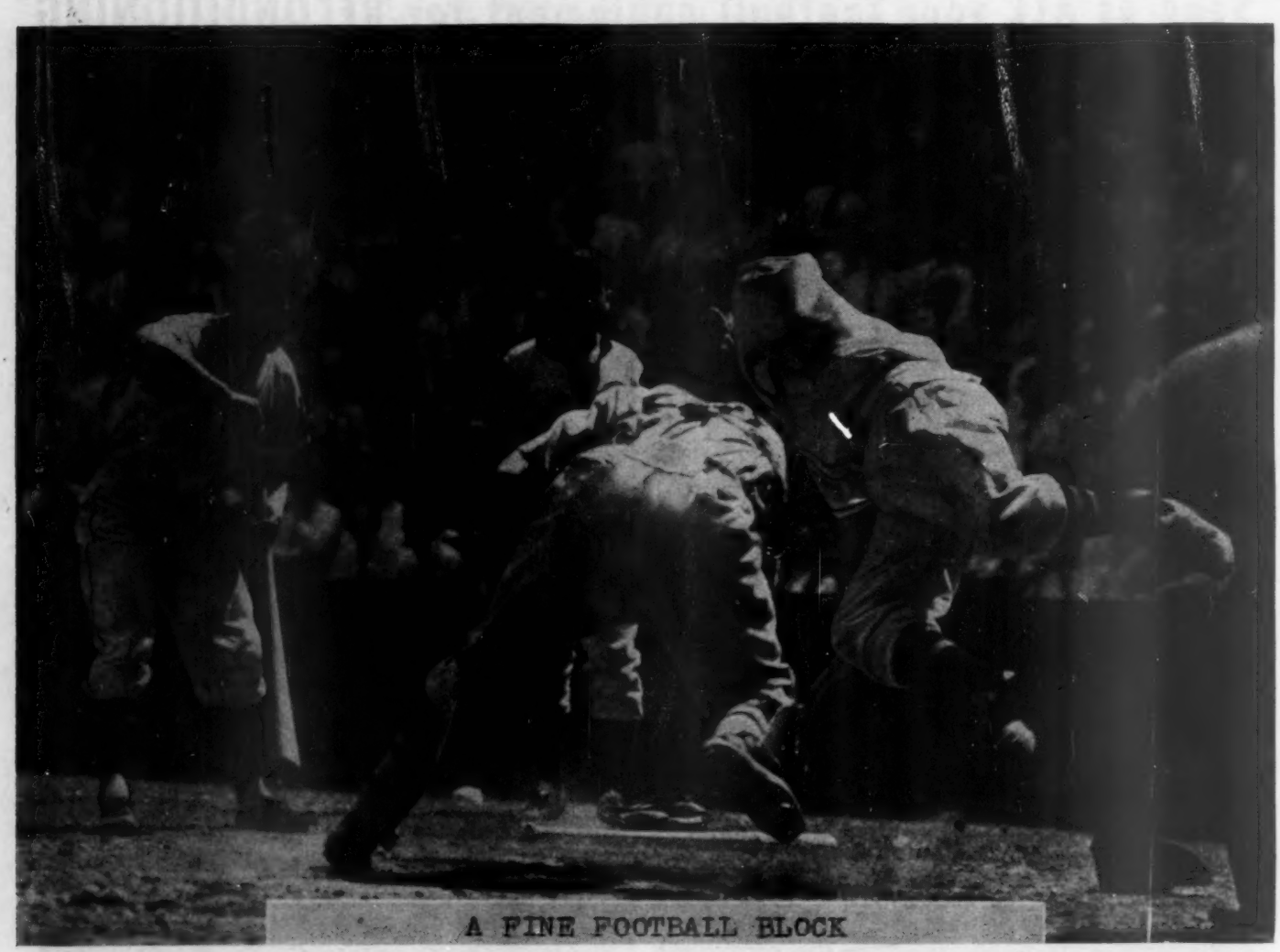

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SPOT BILT

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Engineer amphibian command troops use inflated barracks' bags as life preservers in a water-safety demonstration at Camp Edwards, Massachusetts. Supply of air in the bag can be replenished by holding the mouth of the bag on the water surface and spanking water underneath so that bubbles of air are released into the bag. An inflated barracks' bag will support five men.

Red Cross and Uncle Sam Waterproof the Army

"SHIRT-TAIL lifesaving" has gone to war. Like the youth of the nation, this traditional American Red Cross program has donned olive drab and navy blue. Instead of a serial number, it has a new name—"functional" (combat) swimming. It has a new purpose, too. Instead of operating to save lives in the old swimming hole, it now is a tool of war both in saving lives and facilitating offensive operations.

A shell scores a hit on an LCI and hundreds of men, in full pack for invasion, leap over the sides of the broken craft. Pulling shirt tails from their trousers as they jump feet first overboard, and holding their blouse fronts to the breeze on the downward plunge, they create balloons which buoy them in the water.

A plane crashes into the sea off the Australian coast, and the crew members whip off their trousers, tie knots in each leg, scoop the trouser legs through the air, then use them as life preservers for support until rescue comes.

That is "shirt-tail lifesaving" in GI clothes.

Although based on techniques which the Red Cross has been teaching the public for more than thirty years, functional swimming is as modern as buzz bombs and amphibious warfare. Armies long have contended with water obstacles, but nothing like a mass military swimming program was developed until this global war made apparent that troops—whether on land, on sea, or in the air—must be prepared to swim great distances or remain afloat for long periods of time. When military training became a must, the American Red Cross took stock of its water safety techniques and worked with the armed services to perfect a training course which would equip troops to meet every conceivable water hazard.

Release from panic and from fear of the unknown is one of the most valuable aspects of functional swimming training, according to Charles McCaffree, swimming coach at Michigan State College. Practicing under simulated battle conditions, trainees learn to swim in their clothing and soon find that some of their equipment will keep them afloat, rather than constitute an added hazard. Functional swimming teaches men to improvise, to make ingenuity their life preserver, and to use to their advantage whatever happens to be at hand.

A fully-dressed soldier of the 89th Division learns to swim with his pack and to keep his rifle dry in an American Red Cross water-safety instructor course conducted at Camp Carson, Colorado Springs, Colorado.

When non-swimmers at Camp Gruber, Okla., were hesitant about entering the water with their clothing on, Bob Hastie, well-known coach and referee from Alpena, Michigan, demonstrated that a regulation pack will float, even though laden with full field equipment. Although it may weigh as much as forty-five pounds on land, immersed it weighs nothing. Similarly, men learn that two empty canteens will support one man in the water, and that the air contained beneath a helmet held underarm, bulge up, will float him without treading water.

Because statistics show that more than 60 per cent of inductees cannot swim a stroke, the training of an amphibious army begins with instruction in fundamental aquatic skills, then is developed through useful variations and applications peculiarly suited to the service man and his individual needs. Ten lessons, a total of twenty hours, of the right kind of training will equip most men to handle themselves competently in deep water.

Melvin (Pete) Buzzard, former coach in Kansas, explains it this way as he instructs trainees at army camps in Oklahoma: "Purely functional, the Red Cross shirt-tail course in GI clothes will teach you to throw style to the four winds. A perfect overarm side stroke will be of little use to the fellow whose once-good right arm is injured, or to the fellow who has to get there with his gun still high and dry. In a spot like that, he needs endurance to swim for survival, rather than speed and perfection of style. He has to know how

Three U. S. coast guardsmen use two inflated pairs of trousers and two pillow cases to form a float for an injured buddy. This, and similar techniques with shirts and barracks' bags, are forms of "shirt tail" life saving which Red Cross functional swimming teaches fighting men to help save lives in battle.

to remain on the surface for the longest possible time with the least possible expenditure of energy."

The breast stroke taught is not much for fancy exhibition matches, but it is hardy, takes little out of the swimmer, and is easily adapted, so the trainee finds himself learning it as a basic method of water travel. As change-over strokes, the side and elementary back stroke are utilized as the most feasible ways to swim with the legs and a single arm, tow an injured buddy, or swim with the legs only. The side stroke with a shallow arm pull is recommended for the first emergency, while the legs in an inverted-scissors or inverted breast-stroke kick are logical for the last. If the swimmer tends to show any deviations from standard form, no attempt is made to have him change to "regulation," for it is likely that his own adaptation is more natural and, therefore, more effective for him.

The swimmer is taught to keep his head high, face out of the water, with his legs dropped until the body is angled downward at approximately thirty or forty degrees from the surface. This position will enable him to keep oil from his eyes, and will allow him to see where he is going. Silent swimming also is of considerable tactical value, so the beginner is trained in breathing through the mouth and in keeping all of the limbs under the surface, never breaking the water. Too, strokes which bring a water-soaked sleeve out of the water are taboo, for the movement is strength sapping. Floating and treading water are considered so important that they are among the first skills taught.

Quite the opposite of silent swimming is the "splash recovery," which is about the only way a swimmer can make his way with comparative safety through burning oils or gasoline floating on the surface. The breast stroke again is used, the hands in the recovery portion of the stroke pushing a fan of water forward and sideways, opening a pathway for the swimmer.

Jumping into shallow and deep water from various elevations, from both standing and running positions, is practiced at length. The technique involves keeping the feet close together and holding equipment down to avoid injury, jumping to windward of the boat when possible, and swimming away quickly to make way for others. The only diving taught is the plain front plunge, which may be taken safely from any height up to twelve feet, and will carry the diver safely underwater from forty to fifty feet.

"Man in his right mind does not go swimming with all his clothes on," explains William T. Muhl, Red Cross water safety director in Flint, Michigan, who conducted functional swimming courses for units of the engineer amphibian command which led the invasion of North Africa and Sicily. "The result is that few men realize the difficulty in making progress through water with shoes and clinging pants and shirt. When you add to this a heavy metal helmet, a 50-pound field pack, a 9-pound rifle, gas mask and other standard equipment, it is easy to realize that even the expert swimmer will have difficulty unless he has had some how-to-do instruction."

Just as important as knowing how to conduct himself in the water with his clothing on, is the soldier's knowledge of how to take off his clothes in deep water, and how to tie them securely to his body so that he will have them when needed. A marine might make his way safely through the pounding surf to shore on a South Pacific isle, yet be helpless there without his shoes or his shirt.

Under the tutelage of Red Cross field representatives, each a swimming expert

(Continued on page 26)

SOMEWHERE IN ENGLAND.—A GI learns to "abandon ship." Note his tin hat at shoulder level, where it will furnish a buoy for him. James H. Carnahan (in swimming trunks), former coach and principal at Normal, Illinois, assistant director of athletics for the American Red Cross in Great Britain, has developed the functional swimming program so thoroughly that in one division alone, 12,047 men were trained. Major General Ira C. Eaker, commanding general of the Eighth Air Force, asked Carnahan that the course be given to all men of his command. Recently two Red Cross instructors were sent to Hawaii, one to Porto Rico, another to Cuba, and a fifth to Trinidad, to train instructors for army personnel.

Personal Combat Training at Great Lakes Naval Training Center

By Robert J. Antonacci

Chief Specialist, U.S.N.R.

IN THE September, 1943 issue, the article *Preparing for Personal Combat* by R. J. Antonacci had stressed the needs for more of the body-contact type of training. It is advisable to refer to this issue to get a clearer picture of the growing needs of conditioning both physically and mentally before participation in the hand-to-hand combat instruction. Men coming into the military service still lack conditioning background, necessary for acquiring combat training skills, although improved. The military program must rectify this situation. A great deal more should be done for the pre-inductees in the contact type of activity—boxing, football, wrestling, tumbling and road work. These activities will do much to prepare them for vigorous military training.

Since we are at war with an aggressor group of nations, it becomes necessary for this Training Center to prepare a program that will give every sailor confidence in hand-to-hand combat crises. Personal combat is the outgrowth of this necessity. This activity is a combination of all known methods of personal combat that have been developed by man, plus the use of the basic weapons, knives, clothing, stones, etc., in a manner where no rules are observed in an engagement that presents a man-to-man struggle to the finish.

The hand-to-hand program must give the recruit a new sense of values—*kill or be killed*—and it must show him how it is to be done. It must give him confidence in himself under any circumstances and it must break down any fear that he has of enemy methods.

Now that the continents are brought closer together by the inventions of modern speedy crafts and the amphibious type of warfare, it is possible that if a ship is "knocked out," it does not mean defeat; the sailors aboard may be forced to use a piece of wreckage to swim ashore, and from here on to depend on their personal ability at hand-to-hand warfare, and make use of any assistance offered by nature.

A sailor, when stripped of his fighting weapons, surely loses his effectiveness and is at the mercy of the enemy. Confidence, however, can be bolstered, and a technique of hand-to-hand fighting developed to such an extent that the recruit becomes confident and eager, feeling and knowing that he has a method of taking care of himself. Enpecially is this true when the crew is disorganized.

The number of men that are reported missing and captured runs into the thousands. Since the great majority of them are in enemy territory, the use of firearms becomes precarious. Firearms will surely kill an opponent until the ammunition runs out, but at the same time a man's position will have been revealed to the enemy. The escape must be done quietly and effectively.

There is no doubt that the sailor who has had even the fundamental training in hand-to-hand fighting will have the best chance of returning. He will have confidence because he knows that he has a method of taking care of himself against any type of attack.

Let nobody question the necessity for this type of training. The American youth has been steeped in our ideals of good sportsmanship from childhood. Added to that he has a fear of the Japanese system of jiu jitsu and other brutal enemy tactics.

Administrative Commands See Needs of Personal Combat

It is the desire of the Training Center's commander, Commodore R. R. M. Emmet, to have every sailor prepared for any eventuality. Not only will he be efficient

IN the September, 1943, issue of the ATHLETIC JOURNAL, Chief Robert J. Antonacci presented a helpful statement on the fundamentals of training large groups of men in personal and hand-to-hand combat. Since that time these procedures have been followed and made a part of the training of hundreds of thousands of recruits at this training center. Since the writing of the original article, certain additional ideas and techniques have been experimented with, and others improved upon. Chief Antonacci has given readers in the accompanying article a view of what experience has taught him, and other members of our staff, during the past year. Like the original article, it is a simple, straightforward statement of a practical program designed to make the American sailor the tough customer that he has already proved himself to be at close quarters with a ruthless enemy.

The article is written purely from a military point of view. Its use for the civilian or school program of physical education must be judged accordingly.

ALDEN W. THOMPSON
Lieut. Comdr., U.S.N.R.
OinC, Physical Training and Recreation

Breaking a Front Strangle

Breaking a Rear Strangle

A Finishing Blow

Blocking dummies for body contact.

in his technical skills, but through personal combat training, he will be prepared mentally and physically to defend himself and his mates.

From the office of Commander William Turek, the recruit training commanding officer, comes a master schedule whereby every sailor while in recruit training has a daily period of physical training.

The tremendous job of the physical training and recreation officer, Lieutenant Commander Alden W. Thompson, is the preparation of a program for the actual training of personal combat tactics and the selection of instructors.

At one time 40,000 men weekly were participating in hand-to-hand combat training classes. The recruits are given instruction only after they have had previous training in a conditioning program.

It cannot be over emphasized that a sailor who has participated in the activities that have the elements of body contact should make the better rough and tumble fighter. For this reason the sailor, before participating in personal combat tactics, should learn the fundamentals of: 1. General military condition and discipline; 2. Calisthenics (light and vigorous); 3. Wrestling; 4. Boxing; 5. Tumbling; 6. Football Tactics; 7. Obstacle Course; 8. Road Work.

To present a clearer picture of the average recruit's inadequate preparation for personal combat, it is necessary to enumerate several of his characteristics.

Recruit's Physical and Mental Make-up in Regard to Hand-to-Hand Fighting

By means of a questionnaire and by observing actual participation, the following information was gathered during the recruit's early physical training period:

1. He shows skepticism and fear of the word jiu jitsu. Actual cases can be cited where officers and men of the service and especially the prospective inductees are paying money for judo instruction, believing this to be the last word in personal-combat fighting.

2. He is expecting to see a glorified demonstration exhibited by the instructor.

3. He lacks tumbling skills—execution of simple forward rolls, dive and rolls and backward rolls. (This is one of the most neglected activities of the pre-inductees. September, 1943 issue of ATHLETIC JOURNAL).

4. He lacks the proper training in knowing how to take a fall and recover without injury.

5. He lacks confidence when taking part in vigorous body contact activity. (A small percentage have had previous training in football, boxing, wrestling and soccer: September, 1943 issue of ATHLETIC JOURNAL.

6. He does not realize the importance of learning the vital areas of the human body.

7. He is uncertain as to whether or not he could forget the American conception of sportsmanship if in a hand-to-hand fight with the enemy.

8. He fails to recognize the quality of his American developed skills over those of an overrated foreign system.

9. He has little knowledge or skill concerning methods of strangling, knife fighting, dodging and parrying, and use of opponent's clothing.

These countless obstacles show the complexity of the problem that must be solved by facing an instructor, when attempting to convey a simple, practical method of instructions. The men, once having been instructed properly, will be better prepared both mentally and physically for a personal encounter.

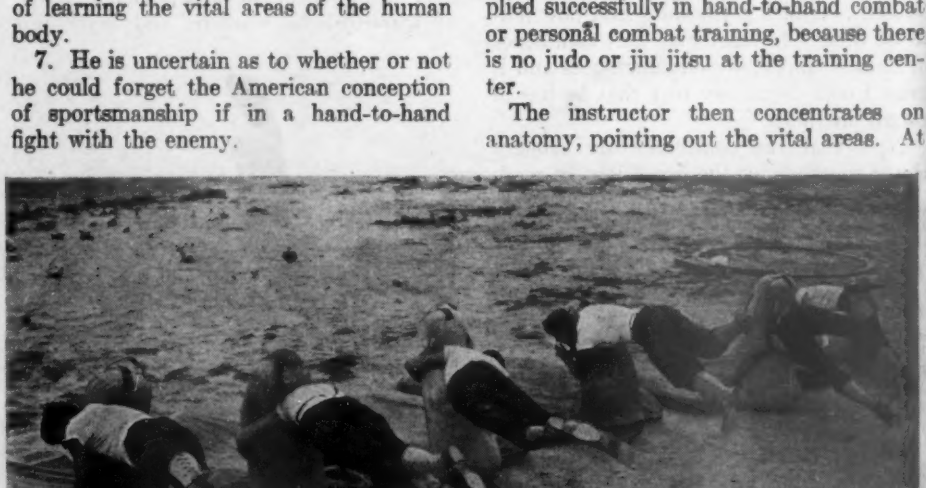
Recruit Learns Practical Close Combat

Because of the limited time allotment possible during a war period, it is necessary to speed up the program. In spite of this handicap, every effort is made to bring out the recruit's hidden potentialities, the mental as well as the physical. A man may achieve a certain standard of physical excellence through participation in different forms of exercise, but lack the self-confidence to take part in the more vigorous combative activities. (ATHLETIC JOURNAL, September, 1943 issue.)

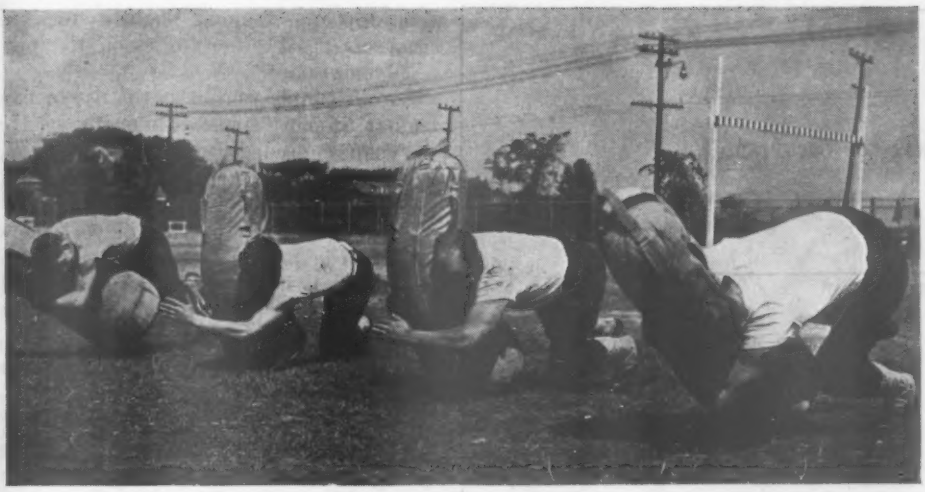
The instructor must attempt to break the recruit's mental fear of enemy tactics and of body shock. After this is remedied, the recruit is ready for training in actual methods of attacks and defense. Only those skills, considered most valuable, are stressed.

In his first class, the recruit is told how jiu jitsu and other enemy tactics have been highly overrated. The instructor points out that a good criterion for judging the calibre of men in close combat is the results of the Olympic boxing and wrestling meets. From the skills, acquired through competitive participation, he develops many techniques that can be applied successfully in hand-to-hand combat or personal combat training, because there is no judo or jiu jitsu at the training center.

The instructor then concentrates on anatomy, pointing out the vital areas. At



Tackling the dummies.



A Low Driving Tackle

this time, the men must be made to understand the importance of going all out in battle. Sportsmanship must be forgotten. Every man must be made to realize it is a fight to the finish, and anything goes.

The next step is breaking the fear of body shock through progressive forms of tumbling instructions, starting with the simple forward rolls, backward rolls, dive and forward rolls, gradually working into the more strenuous activity consisting of practice on blocking and tackling dummies. At the beginning of every period the class is given a ten-minute drill of vigorous exercise. (ATHLETIC JOURNAL, September, 1943.)

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Footwork and Co-ordination of Play Around Second Base

By H. S. DeGroat

Director of Town and School Physical Education, Newtown, Connecticut

AFTER serving with the air forces, Mr. De Groat returned to Springfield College as an instructor with the air crew. Since that was replaced by a Naval Hospital Unit, he is serving as director of town and school physical education at Newtown, Connecticut, until the undergraduate courses at Springfield College are resumed in September, 1945.

THERE are many new coaches of high school baseball because so many regular coaches are in the armed services. These men teach other subjects during the day, and the assignment to coach the team is taken because the boys wish to play ball and need some one to lead them.

Today, one needs only a single thought to be convinced that it is essential that the lads in school right now—war or no war—are young only once, and their needs are in the priority class. They cannot be put off or left unheeded.

Many coaches, as well as players, need to become baseball-minded as the season approaches. Reading an article on baseball at this time has the pleasant effect of starting that thinking and perhaps bringing to mind a few facts that might be overlooked otherwise in our busy everyday life. This article, therefore, may fill a need in the well-known usefulness of this magazine which is used so much by coaches to impart knowledge to their players. It may be a time saver in telling the keystone players certain things that the coach may not have time to tell them.

Where to Stand

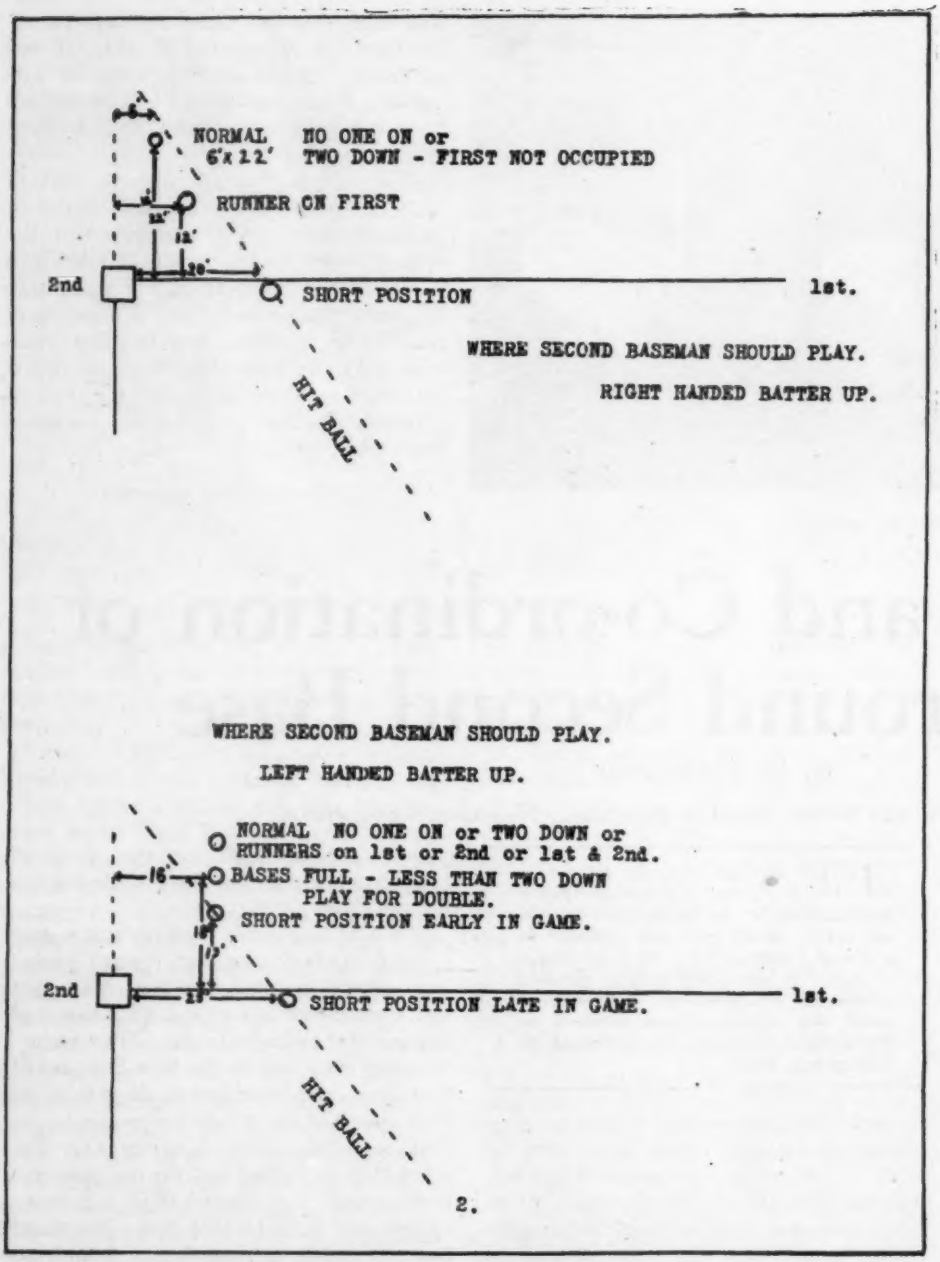
First let us take a look at the position which basemen should take as they start a game or a new inning in the field. Many youngsters have a vague idea as to where they should stand but the idea is not definite. Here is some definite but simple information. I like to give the actual measurements, first in feet, and then interpret them into normal strides or steps of the boy himself. I even like to give the same "dope" to the little grade school boy who plays on the smaller diamond. If he takes the same steps in the direction indicated, he will play the game just as he will when he grows up and graduates to a regular diamond. While we are on the subject, we can include the normal position taken at all bases at the start of any inning and then go into greater detail about the shifts and other techniques around the keystone base.

It is essential to realize that these distances are approximate; that they are taken if there are no runners on base and no outs; that there will be variations when a left-handed batter steps up to the plate, and the style and ability of the pitcher will also require a slight shift. A slow-ball right-handed pitcher will generally give the third baseman a very busy afternoon while a fast-ball right-handed may require the second baseman to shift deeper and toward first base if he is to stop the ones coming his way that day.

With no one on the bases, and a right-hand batter up let us take our normal positions on the diamond and then interpret the measurements into steps so any player, large or small, can step them off and start slapping his glove while waiting for that first pitch.

The first baseman's position is at a spot approximately fifteen feet toward second base (down the base line toward second) and twenty-five feet behind that base line toward the right-field area. The second baseman is six feet up the base line toward first base and twenty-two feet back of that spot but on a line perpendicular to that base line. (See Diagram 1). The short stop is twenty feet up the base line from second base toward third and twenty-five feet back of that spot. The third baseman takes a spot twelve feet from the base toward second and six feet behind the base line.

Now let us step it off and remember the *strides*. Each player starts at his own base and walks along the base line first and then makes a right right-angle turn and walks off behind the base line until he comes to his own spot. For the first baseman the 15′-25′ measurement listed above means five strides toward second base and eight and one-half steps back into right field. For the second baseman the 6′-22′ position is two steps up the base line toward first and seven steps back of the base line, the last step being a long one. The shortstop's 20′-25′ spot is reached by walking seven steps up the base line toward third, and eight steps back. The third baseman walks four steps toward second and two back of the line to reach that 12′-6′ spot. Now if these players can be made to realize that, as men get on base, or a left-hander comes to bat, or if the score changes, or if



the number of outs changes, they must shift, we can, as coaches, be assured that they at least know where we expect them to stand until we tell them to shift to fit the situations as they arise.

Second Base Co-ordination

With our keystone players out there ready to start, a right-hander on the mound, and a right-hander swinging a bat, we can now apply a simple routine for some of the shifts that are necessary.

First-shift-condition, a runner on first base. The second baseman moves five steps directly toward the batter. That places him at a 12′-12′ position, or twelve feet up toward first and twelve feet back of the base line. He is now ready to take the throw from the catcher if a steal is attempted. The timing of the throw and his being at the bag are easy from this spot.

Likewise the shortstop with a runner on second base takes the same number—five short steps—toward the runner who is now playing a normal position off the base. This places the short where he can hold the baserunner close, take a quick throw from the pitcher, or move out on the pitch to field his position.

Second shift—Condition, left-handed batter steps up to bat, no one on base. Now, if we realize that the two players are theoretically changing jobs, the second baseman becoming a shortstop and the shortstop a second baseman, we can see that they should assume approximately the same normal positions that the other assumed when the right-hander was up to bat, namely, the 6′-22′ and 20′-25′ spots in reverse. This is done very simply. If each player will move from his normal position five steps to his left, he will assume the new position. The only difference is that the second baseman must move slightly backward from his 6′-22′ so as to be in the new 20′-25′ spot while the shortstop must move slighdy forward from his 25′ position to reach the new 6′-22′ position.

So our simple routine is the use of five regular or short steps. These steps solve the changes needed if a runner is on base, or if a left-hander steps to the plate. Now, the coach has definite-position spots located and can instruct his player where to shift if he has a fast-ball pitcher on the mound, or if his pitcher for the day will be giving the third baseman and the shortstop a busy afternoon.

The others shifts or position spots on the accompanying diagrams explain themselves except that we might emphasize two things—the short position and the cut-off position, and let the coach decide as to how he will use them.

First, let us look at the short position. This position is usually assumed when the baserunners are in position to score and with less than two down, in order to cut off the run at the plate. In early innings with no score or a tight game, this position is usually back of the base line so that the defense can still cover considerable territory. It may also be good baseball to take a chance on a run scoring, and on making a double play, or even a sure out at another base. The young players need only be told once that, the nearer they play to the batter, the easier it is for him to "punch" the ball between them or over their heads.

Next, let us decide about the cut-off position. (See short stop diagram). As coach, the system is now up for the decision. If a coach decides to use this system, he must drill his players accordingly. If he does not want it in his system, he needs tell his players that he is using another and, for them, a better system. This system calls for the shortstop to hustle to that spot in line with the ball when an outfielder is fielding a single and trying to cut off the runner who is attempting to make third base from first. There may also have been a runner on third. The idea is to keep the runner from reaching third on the single or, if he does, to try to hold the batter at first, or put him out of he tries to make second base. It is defensive, but aggressive, in character. It means that the team is in there fighting and giving no extra bases except when they are earned.

If the shortstop is in his cut-off position, a coach has yet to train his second baseman to get back to his base so he can take his part in the play. The pitcher must also be trained to back up third base. As the outfielder gathers up the single and his nearest team mate coaches him to cut off the runner trying for third, he lets loose with his throw toward third base where the third baseman is waiting for it. With the pitcher backing up the base—about thirty feet back of it, and in line with the throw—and with the shortstop in position and the second baseman back

at his base, they can operate on the runner or get the batter if he tries for second on this throw. If the ball goes over the third baseman's head, the pitcher can hold the runner at third, or get him out, if he overslides or attempts to go home. If the third baseman decides that the throw is going to be too late, or too wide for a put-out at his base, he can tell the shortstop to cut it off and throw to second base to catch the batter who usually tries to reach second on these plays. I always ridicule the lazy pitcher when a wild throw goes over the heads of the third baseman or the pitcher, simply because they did not get *far enough back*, soon enough, to stop the overthrow and then the whole team and the crowd see the silly spectacle of two players chasing a ball while the gambling baserunners trot home. Sometimes the batter lands on third in these "boners," and trots home when this same pitcher makes the next pitch, having overexerted himself in the silly spectacle.

Footwork Around the Keystone Base

The lads with clever footwork around the keystone sack are more likely to be the best guardians of that position. Both players face situations in which they either wait at the base for a throw or are in motion as they receive the throw, and tag the base before throwing to complete a double play. Clever footwork keeps them in balance and results in the accurate throw that makes the second out count.

The Second Baseman's Footwork

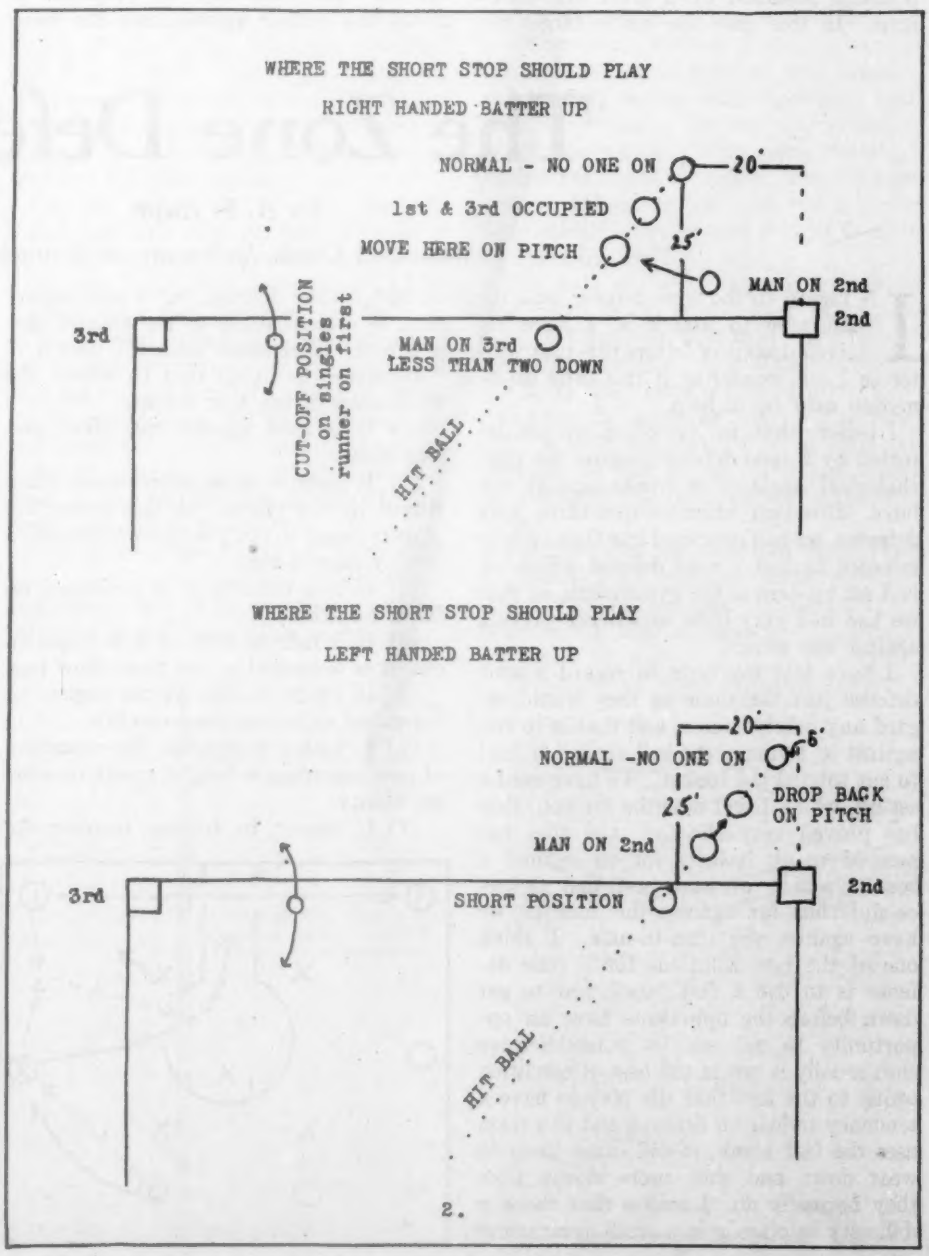
Let us view the action of the second baseman. First—the waiting position. Where is it? There are two approved waiting positions for double-play action. *One* is taken *straddling the base* and facing the direction from which the expected throw is to arrive. If in this position and a good throw comes *directly to his chest or chin*, he can catch the ball easily, step or hop his right foot on to the base and throw to first. This same position is correctly used by him in receiving the throw from the catcher on a steal.

In this position if the throw arrives on his left, or on the side toward first base, he *automatically hops his right foot on* to the base as he catches the ball and then can take his normal stride in throwing to first. If, however, the throw comes in on his right, or toward the outfield, a good procedure is to *hop to that side and allow the left toe to take the base as the catch is made* and then stride and throw to first. It is a slower and, therefore, a poorer technique to delay the touching of the base until after the catch instead of making it all in one motion.

The second waiting position is across the base with the heels close to the bag and the toes pointed toward the expected thrower. This position is very similar to that assumed by many first basemen. The feet can be shifted according to the accuracy of the throw. If the throw is to the chest, the baseman *steps back on the base with the right foot*, pivots and makes his throw to first. For all other throws, he shifts his feet like a first baseman.

The in-motion action of the second baseman involves considerable ability in adjusting himself to the varied situations that arise at the base. The ease, with which the baseman catches the ball, tags the base, and makes his throw, results in double plays and not errors or only one put-out when two can be made. If he is drilled to execute several types of foot action, he will develop much faster than if left to chance. All coaches know *if the timing of the whole movement is smooth and the athlete's rhythm of motion is not disturbed, his accuracy is perfect.* Usually the *in-motion action* takes place on *short tosses* from the shortstop while the *waiting action* occurs on *long throws* from the various infielders. Both players at the keystone base have the hazard of the approach of the baserunner from first to contend with. This hazard is a real one to many youngsters.

The following varieties of action are effective. The second baseman *times his approach* to the base and catches the ball just before he steps on the base. The most common action is to step on the base with the right foot, pivot on it, and then throw to first. A professional will step on it and across, throwing underhand, all in one motion. The modification of this action, that puts the baseman out of contact with the incoming baserunner, if he attempts to block the throw, is to hop off the base to the infield side of it and then throw. In this case, the player should avoid the side-arm throw. Many coaches like the underhand throw to first base because its tendency, if made inaccurately,



2.

may still result in a pick-up at first while the wild heave of an overhand throw tends to go sailing up out of reach.

Two other actions of a similar nature allow the baseman to tag the base with either foot and then step back away from the base and make the throw, thus avoiding the runner sliding into the base. Both of these must be practiced so either action becomes second nature. To summarize the in-motion action, we have (1) the step on and pivot motion, (2) the step on and hop across, (3) tag the base and step back, with either foot used to tag the base.

The Shortstop's Footwork

The shortstop's waiting position is usually just to the rear of the base as he waits for throws from the second baseman, going deep to his left, or throws from the first baseman. Of course, he can take the regular inside-target or outside target positions assumed by a good first baseman. In this case the inside target requires the shortstop to place his left foot on the base and make a target of his body on the inside area of the diamond, and thus draw a throw that travels down the side, away from the course of the baserunner. The outside target is just the opposite. These two techniques avoid the errors involved when the flight of the thrown ball crosses the course of the baserunner, so often resulting in the ball hitting the runner and, instead of having a double play, the pitcher and his team face a situation with two men on bases and none or one out instead of two out or being up to bat.

In-motion action of the shortstop involves *proper timing* as he approaches the base. He must do two things, approach from the proper angle so as to form a target for the man fielding the ball, and be at the proper spot at the time he receives the ball to execute the tagging of the base and to make an accurate throw to complete the double play, if one is involved. He must also be prepared to avoid the runner approaching the base. All of these should be done in such a smooth movement that his rhythm is not hurried or disturbed.

If he makes a *slight-curving approach* so as to arrive in line with the expected throw, he will receive the ball before he hits the base and then can execute at least one of four different actions. One is to *hop off both feet, land with the right foot on the base,* and complete the throw as the feet land. This is probably the fastest action in getting the ball away. It is called the *hop-on-and-throw-action.*

A slightly slower action which is good but carries the baseman further up the base line and in the path of the approaching baserunner is to *step on the base* with the right foot and then hop up the base line and throw as the feet hit. This can be done with the left foot tagging too, but may not be as smooth for all players. This is called the *step-on-and-hop-action.*

We have the clever foot action which involves the tagging of the base with either foot and then either hopping to the

(Continued on page 44)

The Zone Defense

By A. F. Rupp

Basketball Coach, University of Kentucky

IN regard to the zone defense, and the best way to attack it, I have received dozens of letters this past winter so I am wondering if this little information may be of help.

I believe that, far too often, we are defeated by a zone defense because the psychological angle of it works against our boys. This year when we met three zone defenses, we had practiced less than twenty minutes against a zone defense which we had set up here in the gymnasium, so that we had had very little experience playing against the zone.

I have told my boys to regard a zone defense just the same as they would regard any other defense, and that is to run against it, to move the ball against it, and to cut toward the basket. We have used a set-up, which I will describe for you, that has proved very effective, and that has secured many baskets for us against a zone. In fact, we have been just as successful thus far against the zone as we have against the man-to-man. I think one of the best solutions for a zone defense is to use a fast break and to get down before the opponents have an opportunity to get set. A zone-defensive club usually is not in the best of condition owing to the fact that the players have a tendency to loaf on defense, and if a team uses the fast break, it will cause them to wear down and shift more slowly than they normally do. I realize that there is difficulty in playing in a small gymnasium against a zone defense, but I still believe that, if a team sticks to the general idea of a zone, a fast-break team will beat it.

Here are the things that I consider the weaknesses of the zone defense:

(1) It is weak against side shots and long shots.

(2) It loses its mass effectiveness when spread by the offense; in this event, the players using it are practically compelled to play man-to-man.

(3) If it overshifts, it is weakened on the blind side.

(4) If it fails to shift or if it is drawn out, it is weakened at the free-throw line.

(5) It tends to lead to the neglect of individual defensive fundamentals.

(6) It makes impossible the matching of men according to height, speed, or scoring ability.

(7) It cannot, by forcing, increase the tempo of the opponent's attack.

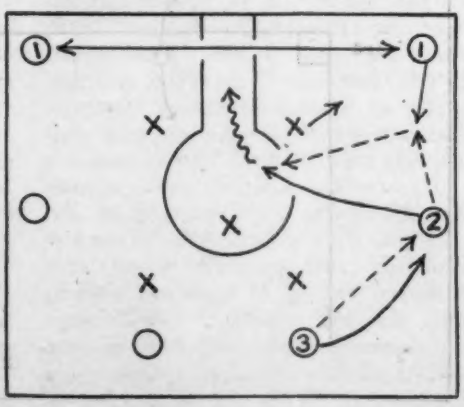
(8) It must be abandoned at the close of a losing game, when the use of man-to-man technique becomes necessary.

(9) It makes possible the overloading of one zone by the opposing team, that is, the maneuvering of two offensive men into the territory of one oppnent.

A very effective method of working against a zone defense is shown in the accompanying diagram.

The center, 1, floats from one side to the other as shown. The play works on either side. Three passes to 2 who passes immediately to 1 and then cuts to the basket for a return pass. If 1 cannot pass to 2, he passes to 3 who has cut to the spot vacated by 2. Three shoots or passes to 1 and cuts for the basket.

The diagram shows the 2-1-2 defense which is the most difficult to penetrate. The play shown in the diagram will work much better against the 3-2 zone. You will note that when 2 cuts for the basket, he will be on the inside of all the other defensive players. The pass from 1 to him should not be difficult. The important thing to remember is that the passes should be made quickly, accurately, should be well timed, and the cutting should be at top speed. The important thing about attacking every zone defense is to move the ball quickly, and to cut quickly for the basket. There is no defense against good ball-handling. That statement applies to the zone defense.



Physical Education Apparatus You Can Make

By John O. Attebery

Physical Director, Morrisonville, Illinois, Community High School

ALL too often the cry has been raised by boards of education, administration, and even the physical director, that physical education apparatus costs are prohibitive. For some of the seemingly unobtainable pieces, have you ever considered the possibility of collaboration with the shop or manual training instructor with an idea of school construction of this equipment?

A well-rounded physical education program should include apparatus activity. In many schools, games or calisthenics have been overstressed. Both have their place but do not in themselves constitute a well-rounded program. For instance, most games, while good exercisers and developers of the leg and thigh muscles, neglect some of the other important muscle locations of the body, such as the shoulders, arms, chest, and back.

At Morrisonville High School, we have a variety of apparatus, and we believe each piece contributes much more to the boys than mere muscular development or physical efficiency. The apparatus has been constructed here at school. The cash outlay has been less than fifty dollars. Most schools would have very little trouble adapting part or all of this apparatus to their own gymnasium layout. It might be stated as a means of financial inducement that the money expended for apparatus has more than been returned to the school by increased attendance at basketball games, and by increased interest in our physical education program. The increase in attendance at games is the result of gymnasium exhibitions between halves. These exhibitions are either tumbling, flying rings, trapeze, or other apparatus stunts.

Construction plans are given for those who are having trouble with priorities or finances. A few suggestions for the use of the apparatus have also been included. There are several books on the market dealing with some of the apparatus, and the writer will be glad to correspond with anyone regarding the use or construction of the pieces of gymnasium equipment, described in this article.

Peg Board. (Diagram 1.) Without a doubt, this is one of the finest shoulder, arm, and stomach muscle developers for the amount of money expended, and for the amount of space needed. This piece of equipment is a real challenge to a students' skill and muscular ability.

On the installation of our first peg board, less than three per cent of the boys were able to reach the top and return. After the board had been in use three months, over fifty per cent of the boys have achieved success. One freshman boy has become so proficient on the peg board that his act is a regular feature of physical demonstrations. He is able to go up and down the board cross-handed; come down skipping as many as four holes at a time; go up, toss the pegs down and come down using his fingers only.

For construction of the peg board, obtain a piece of lumber two by six inches and sixteen feet in length. One and one-half inch holes are drilled, eight inches apart as shown in the diagram. The holes should be drilled with a slight downward pitch from the face of the board to the back. This will eliminate any possibility of the pegs slipping out. The two pegs, turned from broken ball bats, should slide in and out of all the holes with ease.

The peg board is fastened to the gymnasium wall by means of five lag screws. These should be countersunk to avoid skin accidents. The lag screws fasten into lead expanders placed in star-drilled holes between the bricks of the wall. The total cost of materials is about two dollars.

Removable Climbing Poles. (Diagram 2.) It is not to be inferred that climbing poles should replace climbing ropes. Both have their place, but one advantage is readily noticeable. With poles there are no friction burns to doctor. The boys get a thrill descending the poles much in the same speedy manner that a night fireman descends his firehouse pole.

The rods which we use can be put up and taken down in less than thirty seconds, certainly an advantage in a school with limited space. If a school is one of the many that have overhead rafter construction, the fastening will be simplified. Drill a hole one inch or so in diameter through the base of the rafter and fasten by means of the hook shown in the diagram.

For the poles we have used three-quarter (inside measurement), water pipe and find it very satisfactory. If desired there is no reason why a larger size would not work just as well.

The climbing poles are used for indi-

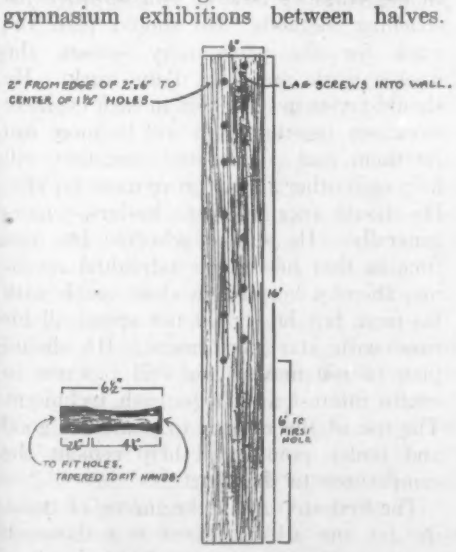


DIAGRAM 1. PEG BOARD

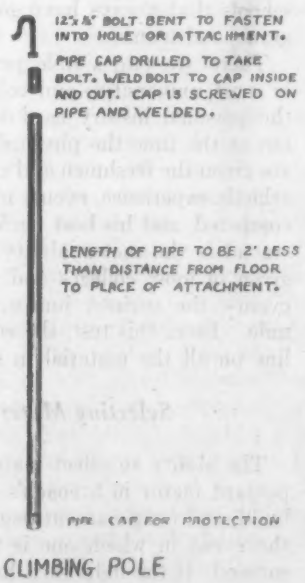

12"x ⅝" BOLT BENT TO FASTEN INTO HOLE OR ATTACHMENT.
PIPE CAP DRILLED TO TAKE BOLT. WELD BOLT TO CAP INSIDE AND OUT. CAP IS SCREWED ON PIPE AND WELDED.
LENGTH OF PIPE TO BE 2' LESS THAN DISTANCE FROM FLOOR TO PLACE OF ATTACHMENT.
PIPE CAP FOR PROTECTION

DIAGRAM 2. CLIMBING POLE

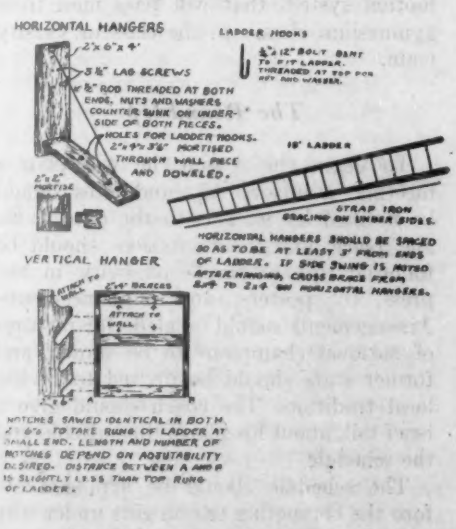
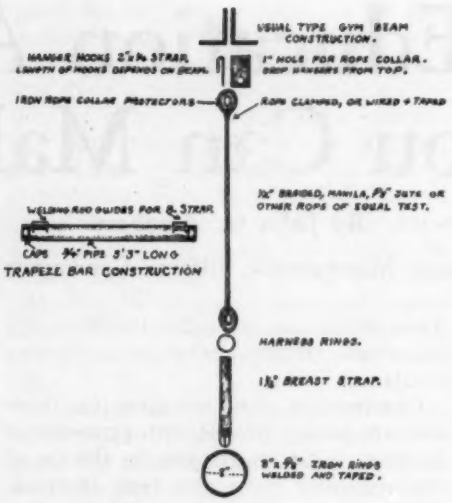

HORIZONTAL HANGERS
LADDER HOOKS
2"x 6"x 4'
⅝" LAG SCREWS
⅝" ROD THREADED AT BOTH ENDS, NUTS AND WASHERS COUNTER SUNK ON UNDERSIDE OF BOTH PIECES.
HOLES FOR LADDER HOOKS.
2"x 4"x 3½" MORTISED THROUGH WALL PIECE AND DOWELED.
2"x 2" MORTISE
18' LADDER
STRAP IRON RAILING ON UNDER SIDES.
HORIZONTAL HANGERS SHOULD BE SPACED SO AS TO BE AT LEAST 3' FROM ENDS OF LADDER. IF SIDE SWING IS NOTED AFTER HANGING, CROSS BRACE FROM 2x4 TO 2x4 ON HORIZONTAL HANGERS.
VERTICAL HANGER
ATTACH TO WALL
2"x4" BRACES
ATTACH TO WALL
NOTCHES SAWED IDENTICAL IN BOTH 2"x 6"s TO TAKE RUNG OF LADDER AT SMALL END. LENGTH AND NUMBER OF NOTCHES DEPEND ON ADJUSTABILITY DESIRED. DISTANCE BETWEEN A AND B IS SLIGHTLY LESS THAN TOP RUNG OF LADDER.

DIAGRAM 3. LADDER AND HANGERS

vidual achievement and for team competition in relay races. The total cost per pole is about two and one-half dollars.

Horizontal Ladder. (Diagram 3.) All physical education instructors are familiar with the value of the ladder. The ladder which we use is an eighteen-foot one, purchased at the local lumber yard at a cost of six dollars and forty cents. For additional strength and stability, strap iron has been attached to the under side of the ladder by using one and one-half inch flat headed screws, countersunk, and spaced about eight or ten inches apart. The strap metal which we used was obtained from the junk yard, having at one time been buggy tires.

The ladder hangs eight and one-half feet from the floor and has been placed at such a spot in the gymnasium that it does not have to be taken down for games, although the construction is such that it may be removed in a very short time. The construction of the wall hangers is shown in the diagram.


USUAL TYPE GYM BEAM CONSTRUCTION.
HANGER HOOKS 2"x¼" STRAP.
LENGTH OF HOOKS DEPENDS ON BEAM.
1" HOLE FOR ROPE COLLAR. DROP HANGERS FROM TOP.
IRON ROPE COLLAR PROTECTORS
ROPE CLAMPED, OR WIRED & TAPED
WELDING ROD GUIDES FOR ⅜ STRAP.
¾" BRAIDED, MANILA, ⅞" JUTE OR OTHER ROPE OF EQUAL TEST.
CAPS ¾" PIPE 5'3" LONG
TRAPEZE BAR CONSTRUCTION
HARNESS RINGS.
1½" BREAST STRAP.
9"x⅝" IRON RING WELDED AND TAPED.
DIAGRAM 4. FLYING RINGS.

If a vertical adjustment is preferred, it is a simple matter to use the same ladder with the vertical wall hanger. This will allow vertical adjustment at almost any angle.

Flying Rings. (Diagram 4.) It is generally agreed that this piece of apparatus ranks foremost with most boys of high school and college age. The thrill of accomplishment, the timing required, and the danger element involved account for the wide interest in the flying rings. It might be well to stress the need for proper protection and proper supervision. Mats

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The Track Coach's Duties in February

By T. E. Jones
Track Coach, University of Wisconsin

ASSUMING that the track coach has a thorough knowledge of all events, has the ability to teach them, is enthusiastic for the sport, is willing to work hard for its success, appreciates the opportunity the activity provides for a large group to enjoy athletic experience, has the ability and desire to motivate boys and co-ordinate their physical and mental stability with competitive achievement, his first task is to surround himself with devices that get a response from a large group to build his track team. He will eliminate no prospect that has ability and tries. He will appeal to the average boy by organizing track classes with sports elective for physical education credit. He will introduce a promotion system that will pass men from gymnasium classes to the class or varsity team.

The Round-Up

To begin the season, he will plan a meeting, a mixer. All candidates should be notified by mail as to the date, time, and place, and the invitations should be followed up by ample publicity in the press, by posters, and announcements. Arrangements should be made for pictures of national champions to be shown, and former stars should be invited to review local tradition. The coach should give a brief talk about his plans, the outlook, and the schedule.

The schedule should be arranged before the competing season gets under way and should consist of intercity, county, district, state, triangular and quadrangular meets. Competition is what makes an athlete, and for this reason some kind of competition should be planned for the entire squad every week, but not more often. The coach should keep in mind the importance of the average boy to the team and give him competition through intermural, interclass, interhall and Class B meets. Letter and numeral men should be barred from these meets. This will then bring to view new men who otherwise would be outclassed by the regulars. An attractive interscholastic or intercollegiate schedule will hold the first string men. This, in general, is the method of recruiting a track squad in most of the best high schools that always have good track programs and teams.

There are two simple practices in use in most universities and colleges, namely, the personal history card which is made out at the time the physical examinations are given the freshmen and gives the man's athletic experience, events in which he has competed, and his best performances; the second is the motor ability test which is given in most colleges and includes track events, the sprints, jumps, and the half mile. From this test, the coach can get a line on all the material in school.

Selecting Material

The ability to select material is an important factor in a coach's success. Size, build, and temperament usually determine the event in which one is most likely to succeed. If the individual has size, weight, co-ordination and strength, he will naturally try weight throwing; if long-limbed and possessing spring, he will choose the jumps; if long-limbed with speed, the hurdles; if he has unusual strength in the arms and upper body, and likes the bar and trapeze, he will try the pole vault; if well co-ordinated with a great deal of nervous force, he will select the sprints, and longer races if he has staying power.

Coaching Methods

With the task of assembling the squad accomplished, with an attractive schedule arranged, and with adequate facilities, equipment and budget at hand, the coach should consider how he can improve his coaching methods. He should plan the work for the preliminary season, the week's work and the daily work. He should try to get the men in each event to work out together as it will be more fun for them, and at the same time, they will help each other and improve more rapidly. He should appoint event leaders, seniors generally. He should schedule his own time so that he can do individual coaching, thereby keeping in close touch with his men, but he should not spend all his time with star performers. He should plan to use movies and still pictures to create interest and help teach technique. The use of the camera to point out good and faulty points will help cement the competitors to the sport.

The first step at the beginning of training for any athletic event is a thorough

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Boxing Department Facilities and Safety Gear

By Max Marek
Chief Specialist U.S.N.R.

ANOTHER series of boxing articles starts in this issue. Because of the impetus given body-contact sports during the war, these sports are being included in the physical education programs of many schools. Max Marek has boxed in competition in amateur ranks and was a member of the United States Olympic Boxing team in 1932. During his undergraduate days at Notre Dame University, he was heavyweight school champion.

POST-WAR physical education will boom, and there will be an especial interest in boxing. Many high schools will enthusiastically continue this sport in their programs, and many will introduce it. This enthusiasm for boxing will die a slow death in most of them unless they adopt a thorough program of equipment and instruction which will sustain interest in the program. Much will depend on the competency of the boxing instructor to arouse interest in this sport and much will depend upon the facilities, equipment, and methods of instruction. In a series of six articles, which I plan to write, I will start with what I believe will be the type of equipment set-up and instruction that will sustain the interest in boxing in high schools.

First, let me say that every high school should include boxing in its physical education curriculum. Every freshman boy should have, at the least, one semester of boxing instruction. This boxing tutelage being compulsory must be carefully supervised along the following lines: (1) Proper safe-guarding equipment for sparring; (2) Correct instruction for practicing on equipment; (3) Stress on *form* in fundamentals; (4) Limitation of blows in sparring; (5) How to teach the left-jab, and the straight-right blows; (6) Teaching and developing footwork. The boxing instructor who follows this outline will have the satisfaction of non-injury in sparring, of providing good coaching, and of sustaining interest in the boxing sport. The latter is vital for the enlistment of members for his voluntary group for team or school-tournament participation.

This article will discuss the kind of facilities needed and the proper safe-guarding equipment. A large room is naturally desirable, but gymnasium designers never think of large rooms, at least fifty by fifty, for sports like boxing wrestling, gymnastics, fencing, etc. After they have designed a basketball floor, they stop thinking. If a room can be found for boxing, it will naturally be too small to include a boxing ring. The boxing ring, however, which should be 18 by 18 feet in size, may be installed in the gymnasium proper. This platform may be on rollers, set up in a corner of the gymnasium, rolled out for boxing shows, and used as a band platform for dances in the gymnasium.

The boxing department that has a separate room devoted solely to the sport is fortunate. The room should have all the equipment for that sport centralized there. Here instruction is given to classes, and after the school day the boys may come in voluntarily for bag-punching and other boxing practices. Boxers should practice and train for school competition under the boxing instructor's guidance.

In the boxing room there should be at least four, and ten if possible, heavy training bags; the same number of light punching-bag stands; a rack to hold fifty skipping ropes; four or more wall-pulleys; an abdominal-exercise table; a space for the checking out and stowing away of miscellaneous gear such as boxing mouthpieces, headgears, light bags, light-bag gloves, etc.

This gear-room should have racks with ten-inch pegs upon which to hang the sparring gloves of 16-ounce size; six-inch pegs upon which to pair off and dry the light punching-bag gloves; hooks on which to hang headgears; pegs between which the light bags are placed. Shelves should be made to hold mouthpieces which are kept immersed in an antiseptic mouthwash, to hold resin, tools for repairing gear, boxing shoes, sox, cup-supporters, trunks, 8-and 10-ounce boxing gloves, bell, stools, buckets, first-aid kit, and miscellaneous items. A gear-room attendant is an important man to keep equipment shipshape.

The boxing instructor will find that many aspirants for the boxing squad come to him via inspiration from his collection of framed photos in the boxing department. These boxing photos may include such men in the professional field as Gene Tunney, Barney Ross, Benny Leonard, who were great scientific boxers. By that I mean they were students of defense and counter-punching. The photos, also, of school boxing squads and school individuals who are outstanding in their boxing endeavors are of vital significance in keeping up boxing interest and in the enlistment of new members into the sport.

In all sparring sessions, headgears should be worn. After class use, these should be wiped dry with a towel and hung on the hooks in the gear-room for airing until their next use. A regular day is set, frequency depending on their use, to sterilize all headgears and boxing gloves. This is done with a ninety per cent solution of sweet oil or petrolatum, and ten per cent of carbolic acid. Shaken well, this solution should be poured onto a cloth with which, wrung out of its excess mixture, the gear should be lightly rubbed. The precaution of using rubber gloves when performing this sterilization may be taken, as the performer's skin may be very sensitive to the carbolic acid, which leaves an unpleasant drying and numbing sensation in the skin.

No boy having bridgework or an enameled portion or cap on a tooth, should be allowed to box. This work may be damaged eventually even with a mouthpiece. Mouthpieces and headgears should be insisted upon by the boxing instructor. The mouthpieces should be kept in a large open-mouthed jar, immersed in a strong antiseptic. When removed for classwork into a clean bucket, they should be rinsed off with water, and distributed to the class. After class sparring, they should be thrown into the bucket, and washed thoroughly with warm water and soap before being placed back into the mouthwash or antiseptic.

A rack with four-inch wooden pegs hung on the wall may be used for the skip ropes. A warning on the purchase of ropes should be made, and that is that the general skip rope for sale by sporting goods concerns is not only too short, but of poor construction. It is economical in the long run to either purchase expensive skip ropes, or to make them up out of ordinary sash cord. To prevent the ends from unlaying, a strip of adhesive tape may be wound around them. Rolling the ends around a screw with large washers, and the screw inserted into six-inch handles of wood is a practical way of improvising revolving skip ropes.

An abdominal exercise table is simply a rub-down table, three feet wide and about six feet long. After every workout, a boxer should spend five minutes doing abdominal calisthenics on this table. Such exercises as the bicycle ride, leg-lift, leg-circle, lifting legs over and touching the table above the head, etc.

In my next article I shall discuss the methods of how the boxer may make the greatest progress in boxing skill by learning how to correctly work out on the heavy training bag, how to practice rope skipping, and how to gain the preliminary coordination on the light punching bag. Article Three will discuss the drills to be used

(Continued on page 45)

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Diverse Opinions, Theories, and Attitudes

The second in a series of unpublished articles by the late Major John L. Griffith

ONE indication of the interest taken by the American people in athletics is reflected in the various opinions held and advanced by a large number of persons. The philosophers in the time of Pericles protested against the popularity which attended athletics in Athens and from the very beginning of college athletics in this country attacks have constantly been made against them, and just as vigorously has the defense been presented. The objections which were raised relative to college athletics in 1870 are quite similar to the objections that are being advanced today. With the changes that have taken place in athletics, however, some of the older objections are being advanced less commonly now than then, while other criticisms are being stressed

The oldest criticism and one that has been carried on to the present is that college athletes because of the strain which they have undergone in connection with their athletic training in the playing of the games are destined to live short lives. Regarding this objection Professor Ryan in his *Summary of Athletic Tendencies,* prepared for the Carnegie Foundation for the Advancement of Teaching and presented in *Bulletin 24* reports. "As to health, college athletes are found to have better life expectancy than the general public but not better than the college population," thus refuting the claim that college athletes die young.

Another charge that the scholastic work of the athletes is inevitably below grade is likewise touched upon by Professor Ryan in the *Carnegie Bulletin* in which he states, "The claim that athletics seriously interfere with scholarship apparently remains unproved although there is some recent evidence that athletes do not reach fully the levels of intellectual attainment their inherent ability would make possible."

The opinions of men regarding the place that athletics have, or should not have, in an educational institution depend very largely upon the understanding that is held relative to the meaning of education and the function of the college. Dr. Clark W. Hetherington suggests that, "Traditional conceptions of education regarding the physical and regarding play are subtle survivals of America social psychology, of ancient and discredited philosophies, namely, asceticism with its exaltation of the mind and its contempt of the body; scholasticism with its exaltation of the intellect and its neglect of the emotions; and Puritanism with its exaltation of seriousness and its fear and ignorance of play." Until such time as educators are more or less agreed regarding the meaning of education, it is quite likely that there will be more or less general disagreement regarding the purposes and values of physical education.

Although there are some who believe that physical education and athletics have no place in the pedagogical scheme, the majority of school and college men today apparently hold the contrary view. Some, however, who do believe that athletics may very properly be made a part of the educational work hold that the main value of athletics is to be interpreted in terms of the physical, while others disagree and maintain that whatever values are to be found in athletics are primarily social values.

Likewise, there is a disagreement among the men who believe that athletics should be educational and not recreative and those who maintain that athletics should be primarily recreative in nature.

One of the more modern viewpoints is that athletics should be in the nature of play and not work. Bowen and Mitchell in *The Theory of Organized Play* suggest, "From the educational standpoint, play has as its essential characteristic for the player an absorbing interest in the occupation in which he is engaged. Play is not to be contrasted with work but with drudgery. Play and drudgery are the two ways of getting work done, the former by inspiration, the latter by compulsion."

Another more recent disagreement has to do with the question of the supervision and coaching of children in connection with the games of the latter. Some, following the newer trend in education which assumes to guarantee the child freedom rather than formal instruction have suggested that the same idea should be carried into athletics. Others have objected and have insisted that play without supervision may be worse than no play at all.

Nathaniel S. Shaler in an article *The Athletic Problem in Education* which appeared in the Atlantic Monthly in January, 1889, pointed out that athletes are rarely meditative. Regarding this, however, he suggests, "We can afford to risk the loss of the contemplative habit because there are few persons so organized as to make good use of this intellectual employment and, also, for the better reason that the world needs rather the swift reaction of man against his surroundings which the athletic habits favor. We can afford to pay empires for it for, in this capacity, rest nearly all the successes which constitute human advance." John Palmer Gavit suggested that, "The general charac-

teristics which lead me to enthusiasm for, and excellence in, physical contests are not as a rule found in association with marked intellectual activity." The man who believes that it is the function of the college to develop the meditative and contemplative attitude toward life and its problems, and who feels that athletics develop executive and dynamic qualities quite generally may be found voicing his protest against college athletics.

There are some who maintain that it is not the function of the school or college to provide athletic entertainment for the fathers and mothers and friends of the athletes or for their fellow students and the others in the community who may have no direct connection with the athletes. On the other hand, there are many who hold to the opinion that it is not only a good thing for the young athletes themselves but also for the educational institution and the public in general to have as spectators at the games large numbers of the immediate relatives of the students and the general public as well.

A recent criticism of college athletics relates to the popularity that now attends the games. This criticism was not to be found in the earlier literature pertaining to college athletics because until recently the newspapers devoted the columns in the sports pages quite largely to recording the results of professional contests of various sorts. It has only been in recent years that the papers generally have devoted much space to school and college athletics. Regarding this increase as manifested by the public press, those who believe that it is better for people to have their athletic ideals shaped by amateur athletes rather than by professional performers have expressed satisfaction and pleasure because the newspapers have given publicity to college athletics.

In the early days, college athletics were seldom criticized on the ground that they were commercialized. The students in those times who were actively engaged in trying to conduct intercollegiate athletics had a difficult task, indeed, in trying to finance their various activities. Since World War 1, few of the larger colleges have been able not only to finance their athletic activities but further to add to their grounds and buildings, and because these few associations have handled large sums of money it has been quite commonly charged that college athletics have become commercialized. This criticism has been met by the men who have felt the responsibility of financing the athletic departments with which they were connected.

These various problems, attitudes, theories and opinions have been noted for the purpose of setting forth some of the diverse opinions held by men of today and to suggest that these and other questions of similar nature will be considered and analyzed in succeeding articles.

Athletic Injuries and the Life Expectancy of Athletes

TOO often in the matter of physical injuries, sustained in athletics and the effect of strain on the later life of the competitor, individual cases have been cited to prove or disprove the conclusions of an author or speaker. It is not the purpose of this writer to attempt to answer this question relative to the physical side of athletics. In the preface to *Bulletin Twenty-Three* issued by the Carnegie Foundation for the Advancement of Teaching, Dr. Pritchett gave as his conclusions regarding this question, "That the relation of college organized sports to the health of the individual student is one dependent on the good sense exhibited by the college boys in participating in such sports, and to the quality of the advice he receives from the college medical officer." Professor Ryan's analysis (*Carnegie Bulletin 24*) of the findings of a number of students relative to this question that "College athletes have better life expectancy than the general population" has already been mentioned.

The physical side of intercollegiate participation has probably been treated more scientifically than have the other questions concerning college athletics, and this phase of the discussion may be closed by stating that, as yet, it has not been proven that athletes as a class die at earlier ages than their fellows do nor that as a group, college athletes were handicapped in later life by injuries received during participation in college athletics.

The man who was familiar with the conceptions and practices held, and followed, by trainers and coaches in the early days of college athletics may well marvel that the ill effect of athletics as then engaged in was not reflected in the life histories of the alumni. Some of the theories and practices which have been discarded, but which were more or less common in the early days of college sports will be remembered by many.

Athletes were required to reduce. In one college every football man was expected to take off twenty-five pounds. In accomplishing the desired results the men in training, wrapped in heavy garments, were give such work as to cause them to perspire profusely, and they were restricted in their consumption of liquids. A cup of weak tea or a glass of ale with a meal frequently represented the sum total of liquid refreshment per day.

Formerly, it was commonly believed that an athlete should train strenuously throughout the season of the sport in which he was to compete and that he would become stale if he trained during "off" seasons. The idea of keeping fit throughout the year was not formerly held as a sound view of athletic training. Consequently, football men were sometimes worked four or five hours a day, and many of them broke training with a vengeance at the end of the season. Today, college athletes are encouraged to engage in light training throughout the "off" seasons, and during the seasons of competition they are given moderate training.

Until more recent times, when a man started a football game, he was expected to stay in that game until the end or, perchance, until he was carried off the field. In those days it was not uncommon for a team to play through a game of forty-five-minute halves with only two or possibly three substitutions having been made. The numbers of cases of men

who were badly injured being sent into a game or allowed to stay in the game were large. Today, not only must the college athlete pass a satisfactory physical and health examination by the university physician, something unheard of in the earlier days of athletics, but he is more or less under the scrutiny of the athletic association medical corps throughout his competition. Today, when an athlete is injured or tired, a substitute relieves him. Sometimes as many as seventy men may participate in a single game of football.

Today, the men who train for an intercollegiate athletic squad are given light work at first and harder work later on until the men have nearly reached their peak and then they are given comparatively light work during the week in preparation for the Saturday games. Some of the best known coaches do not allow their men to engage in practice scrimmages in November. In the old days, however, it was nothing uncommon to start the track squad or crew out the first day by sending them over a five-mile run. Frequently, those who dropped out were cut from the squad. The football teams started training in August and continued until December. The men were frequently scrimmaged two hours per day in addition to their other work. In some institutions the football candidates reported to the coach at three o'clock and worked hard until six when they stopped long enough to eat dinner at the training table (they did not change their clothes for dinner but ate in their uniforms that were heavy with dust and sweat), and then after dinner they ran signals for an hour or two longer.

Many of the men whose life histories have been examined by those who have made the studies relative to the longevity of athletes were the former athletes whose training has just been described. Surely the human body can stand a great deal of punishment without permanent injury. If the studies made of the athletes of the earlier generations do not show that the college athletes died at an earlier age than did their fellows, what will a study of the athletes of this generation show twenty-five years from now? One can only hazard a guess, but certain it is that the health of our college athletes today is given more consideration by team doctors, trainers, and coaches than was given the athletes in the seventies, eighties, and nineties by the coaches of that time.

It is of prime importance that college athletes who have trained assiduously and have competed in the more strenuous sports should be taught not to give up a life of activity for one of physical inactivity upon being graduated from college. It is not necessary that a former distance runner continue to train for the mile- and two-mile runs after his college days are ended; squash, handball, tennis and other sports may be played with profit and pleasure. The college athlete who has not learned to value his own physical fitness throughout his life has missed a great deal of the value that he should have obtained from his college athletic experiences.

Twenty-five and thirty years ago college athletics were quite largely condemned on the grounds that the athletes took undue hazards and injured themselves permanently. These criticisms are heard less frequently today, both because many of the arguments were based on false premises, and further because conditions have immeasurably been improved.

Athletics and Education

SINCE educators as a class have not yet agreed regarding the function of education and the aims and objectives of athletics, quite naturally many diverse opinions relative to the place that athletics should occupy in the realm of education are advanced. Not many of the present-day educators would eliminate all physical education and play activities from education, but a study of the earlier literature of education in this country does not reveal that the college professors of that time believed that athletics belonged in the education scheme. The report of the Committtee of Ten published in the late nineties makes no mention of athletics, gymnastics, or physical training.

Dr. Pritchett has called attention to the fact that the American university was transplanted from Europe and that its primary aims were the development of intellectual life. The earlier American college, according to Dr. Pritchett, "aimed to offer to a youth a general cultural education, and to send him out into the world a cultivated man, knowing his mother tongue and some Greek and Latin and mathematics, in touch with literature and science, and with a mind so trained as to enable him to take up a profession or a business with intelligence and success. . . . The conscious purpose of the college was to teach, and, as a teaching agency, to bring the college youth to an understanding and appreciation of the intellectual life, in a word to teach the boy to think."

In certain European countries today, the concepts of education have remained substantially unchanged from those that educators held fifty and even one hundred years ago. In these countries, a youth graduates at an earlier age than does the college youth in the United States. The boy who has attended one of the foreign schools has had no school athletics. When he graduates he is expected, however, to spend four years in military training, which places an emphasis on physical training and health. The French youth, for instance, receives his education piecemeal.

The man then who is not in accord with the modern idea that the college should serve not only as an intellectual agency but as a socializing agency as well, whatever his ideas of the value of recreative sports, may well believe that it is not the function of the college to sponsor athletics. Further, the man who is willing to agree with the more modern notions respecting the aims and objectives of education and the function of the college, but who believes that there is little, if any, value to be obtained from athletics most assuredly will be found among those who maintain that athletics do not have, and should not be given a place, in the pedagogical scheme.

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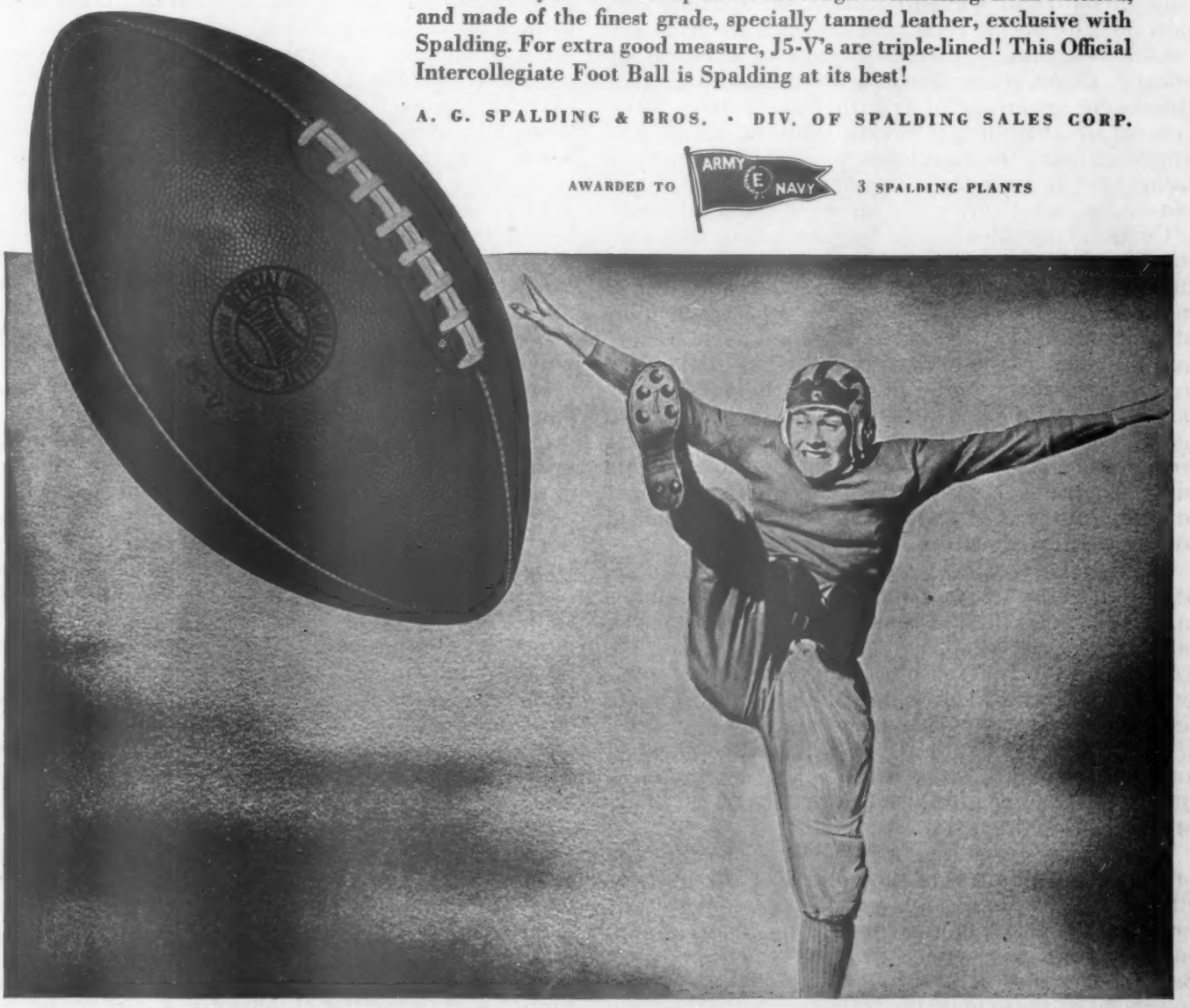

SPALDING

SETS THE PACE SPALDING IN SPORTS

The newer conceptions of education were stated by the National Education Association Commission on the Reorganization of Secondary Education when this commission listed the following seven objectives of education-health, command of fundamental processes, vocation, citizenship, worthy home membership, worthy use of leisure time, and ethical character.

The North Central Association of Secondary Schools and Colleges lists the following objectives of education: First, the ultimate objectives — to maintain health and physical fitness; to use leisure time in the right way; to sustain successfully certain definite social relationships such as civic, domestic, community, etc.; to engage in exploratory vocational activities. Second, the immediate objectives—the acquiring of fruitful knowledge; development of attitudes, interests, motives, ideals and appreciations; the development of definite mental techniques in memory, imagination, judgment and reasoning; acquiring right habits and useful skills.

Certain educational psychologists maintain that the function of education is to improve human nature. They divide human nature into its natural instincts, tendencies and capacities such as co-operation, selfishness, gregariousness, combativeness and the like. Since in one child certain of the fifty or more instincts, listed by the psychologists, may be underdeveloped, it is the duty of the educator to aid this child in the development of such instincts to their normal capacity. Those who hold to this view of education see in play activities an adjunct and laboratory of education that was not recognized by the earlier educators.

Dr. Joseph E. Raycroft fifteen years ago called attention to the strong emotional appeal in athletics and maintained that, in football and similar sports, boys have their emotions trained, and controlled, and consequently "the place and function of competitive athletics in an educational institution are much more important than are commonly realized." He further suggested that, "Participation in sports and games furnishes the principal, if not the only, practical training in ethics that exists in our modern educational system..

In 1926 Dr. Jesse Feiring Williams, as chairman of a special committee of the Society of Directors of Physical Education, canvassed the opinions of four hundred and thirty college presidents, deans of education, alumni secretaries, newspaper editors, football coaches and others, and reported that, in the judgment of these men, the following were the main educational objectives of intercollegiate sport, listed in the order of value.—(1)team play; (2) clean playing; (3) discipline and hard work; (4) loyalty; (5) self-confidence and self-control; (6) respect for rules of the game; (7) service and self-sacrifice (self-denial); (8) stamina and courage; (9) quick thinking under fire; (10) finding one's self, realizing limitations and possibilities, retaining hope and overcoming fear; (11) respect for honored rivals; (12) an interest in physical development; (13) a spirit of friendly rivalry between student bodies; (14) learning the lesson of humility.

Ideas of the objectives of athletics as ideas of the function of education have undergone a marked change in the last thirty years. Formerly the critics of college athletics complained that the students who needed athletics the least, namely, the varsity athletes, received all of the attention, and those who needed athletic training the most, namely, the students who were subnormal physically, were neglected. Those who made these criticisms thought solely of the physical objectives, aims, or values to be found in athletics. The chief values in intercollegiate athletics are social; in intramural athletics, recreative; and in corrective gymnastics, physical. Of course a boy who plays on a varsity team under proper conditions and with wise coaching gets a certain amount of physical benefit in addition to the social benefits from competition and he finds in his athletics recreation as well. The trouble has been, however, that some man who thinks of athletics solely in terms of their possible physical values can see no benefits for the superior athletes to be derived from participation in college athletics. Likewise, the person who believes that all physical education activities are justified, very largely because of their recreative values, is very apt to complain that the intercollegiate athletes find that there is a certain amount of work and even drudgery involved in making the team.

Intercollegiate athletics became a controversial subject twenty-five years ago and the subject has been treated emotionally rather than rationally ever since. Consequently, we frequently find scientists who treat their own work scientifically, disposing of athletic questions in an unscientific manner. Further, the coaches and athletic directors who have always been on the defensive so far as intercollegiate athletics are concerned, and who until recently at least have been forced to sell athletics to potential candidates for the teams, to the faculty, and general public, have set forth the good features of that which they were trying to sell and have not dealt with the defects. Consequently, too many men have attempted to prove that their convictions or prejudices concerning athletics are correct instead of attempting to discover the truth concerning this matter.

If, in the words of Dr. Coleman R. Griffith, we are to "take human life piecemeal and to accept the idea of formal education as mind-wise," then we may well conclude that our present system of intercollegiate athletics is an illegitimate member of the educational family. If, however, the newer conceptions of educational objectives are to be accepted, then we may insist that it is entirely possible to use athletics as a medium through which human nature may be developed and improved. If this view is tenable, then the educational process may be carried on outside the classroom, and the playfields may be considered as a place where manners and morals may be bettered, where students may enjoy recreative sports and where health, strength and stamina may be improved, increased, and conserved. The majority opinion of the function of education coincides, in the main, with the majority opinion of the purposes and values of intercollegiate athletics and physical education.

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Planning an Intramural Track and Field Program In a Large High School

By Lourance Janssen

Formerly, Physical Director, Sacramento High School, Now Serving Overseas

THE physical education program of the Sacramento Senior High School of Sacramento, California, has been developed on the basis that all activities in the program must produce educationally acceptable results if they are to be maintained in the program.

Intramural athletics has been accepted as a phase of the physical education program of the school. The activities in the intramural program have supplemented the work of the physical education curriculum by creating additional opportunities for the pupils to participate in the activities in which they have been given instruction in the regular program.

In some phases of the intramural program, emphasis is placed on team effort, in others on individual effort. In track and field activities emphasis is placed primarily on individual effort. Track and field activities are included in the intromural program of the Sacramento Senior High School. Here the boy must learn to depend on himself and he may develop poise, confidence, good sportsmanship, and many other of the desirable social qualities by competing primarily against himself, but also to some extent against others of his own grade level and athletic classification.

The interest, and the number of boys participating, in the track and field program have increased steadily since the intramural program was first included in the physical education program. The continued success of the track and field program has added much impetus to the entire physical education program.

The points which I shall explain in this article are the following: The number of boys in physical education, medical examinations, grouping the boys in physical education, early track and field program in the school, present program an outgrowth of pupil interest, sound instruction, careful testing and evaluating, interests and needs considered in setting up the present program, setting up the program of evaluation of activities chosen, instructional program, testing program, achievement scales, need for continued opportunity for participation, evaluating the work of the individual pupils participating in the program, and evaluating the program as a whole.

When this study was made, there were 1700 boys enrolled in the school, and of these 1400 chose to participate in physical education, 300 in R.O.T.C. Only those boys enrolled in physical education participate in the intramural program.

The boys enrolled in physical education are given physical examinations by the school physician immediately following their enrollment in high school. The boys who participate in interschool athletics are rechecked before the interschool program begins.

Grouping the Boys in School for Physical Education

The boys enrolling in physical education are given a physical examination by the school physician immediately following their enrollment in the high school. The high school program is based on a three-year plan of sophomore, junior and senior levels. Boys enrolling in physical education on the three levels are placed in active physical education, limited activity or rest, according to the recommendation of the school physician.

The boys placed in active physical education are free to participate in any or all of the activities offered in the regular physical education program. Those in limited activity are confined to those activities recommended by the school physician. Those assigned to rest groups are given complete rest under supervision of the school nurse for one hour each school day.

The boys qualifying for regular activity constitute about eighty-eight per cent, the limited group about ten per cent, and the rest group approximately two per cent of the boys enrolled in physical education.

The boys qualifying for regular activity, approximately 1230 boys, are weighed, measured for height and checked for age, and classified according to the California three-point classification system (weight in pounds, height in half-inches and age in months) into eight groups, sophomore A, B and C, junior A, B and C, and senior A and B . . . Boys having more than 450 exponents being classified as A's, those having less than 460, but more than 429, as B's, and those having less than 430 as C's.

The boys for example are classified as follows:

A boy weighing 160 pounds has 160 exponents 160
Six feet tall (height in half inches)..144
Eighteen years old, 18x12 exponents.216

TOTAL.....520

A classification. (Over 474 exponents)
A boy weighing 130 pounds—130 exponents 130
Five feet tall—(height in half inches) 2X (5x12) 120
Sixteen years old 16x12, age in months 192

TOTAL.....442

B classification (Over 420 and less than 475 exponents)
A boy weighing 120 pounds—120 exponents 120
Five feet tall (height in half inches).120
Fifteen years old 15x12, age in months 180

TOTAL.....420

C classification (Less than 430 exponents)

The boys are re-classified at the beginning of each semester and must compete in the group in which the classification places them.

Before 1933, at which time the present intramural program was inaugurated, the track and field program of the school consisted only of an interschool program in which 35-50 boys participated.

The present intramural program consists of instruction, participation and testing in at least five different events by each boy in the regular physical education classes each semester he attends high school, and is participated in by approximately 1000 boys each semester.

Present Program an Outgrowth of Pupil Interest, Sound Instruction, Careful Testing and Evaluating

The present program had its inception with a group of boys who in the fall of 1932 were not actively engaged or interested in football or basketball, but were interested in some form of "running, jumping, hurdling, throwing and putting, not for a team necessarily, but just for the fun of it", as one of the boys put it.

These boys were not members of the interschool track squad and were not at the time interested in becoming members of any interschool team. In a majority of the cases, the abilities of the boys did not warrant trying for interschool teams. Many new problems became evident in this type of program which were not existent in the interschool program. Steps were taken at once by the physical education department to set up a new program

(Continued on page 42)

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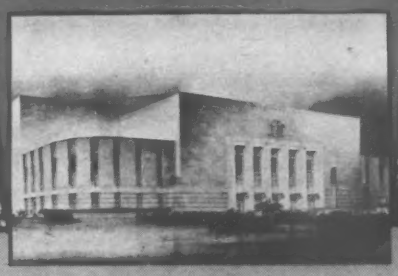

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programs to include practically the entire population of the country, the Institute will expect to initiate, advise, and, in some cases, itself to conduct research of such specific character as may provide the solutions to many of the problems encountered.

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Red Cross and Uncle Sam Waterproof the Army

(Continued from page 6)

and many of them well-known high school and college physical education instructors and coaches, and now thousands of picked service men in centers throughout the country have been trained as instructors who in turn instruct their comrades in arms. Such training has been extended to include nurses and members of the women's auxiliaries to the armed forces, and, in a still greater effort to waterproof the army and navy, is offered to all civilians subject to military or war service.

What does the army think of functional swimming? So important has it become that it now is a required part of military training. All groups of soldiers arriving for training at the University of Missouri are tested immediately, then enrolled in Red Cross water safety classes. Down at the San Antonio Aviation Cadet Center, Major John I. Dambach, physical training officer, undertook a program to teach all non-swimmers to swim and to give all swimmers war-time functional swimming. In April, Roy Kneip, Red Cross instructor and a former coach at Corpus Christi, Texas, tutored forty-six cadets there, who since have passed the instruction on to thousands of men.

These are only a few examples of the work the American Red Cross and physical educationists are doing in this important phase of military training. At training centers throughout the nation, 17,000 Red Cross trained instructors are duplicating the work of the forty-six men trained by Kneip at San Antonio. All over the United States, in England, Hawaii and in the Caribbean, men who as peace-time physical education coaches helped youths to a more healthful enjoyment of life, now are teaching those youths *how to live*, as they help Uncle Sam waterproof his armed forces.

Personal Combat Training at Great Lakes Naval Training Center

(Continued from page 9)

The remaining periods are devoted to the practice of actual skills that involve a man-to-man encounter. The number of classes that each man will attend depends largely upon the fluctuating length of the recruit's training period. The following skills are those considered most necessary:

1. Instructions involving the proper method of dodging and parrying. 2. Clinching with the use of the opponent's clothing; learns that fighting while clothed offers opportunities that do not exist in the conventional combative sports. 3.

Strangling both offensively and defensively. 4. Emphasis on sudden death caused by blows or knife thrusts to the vital areas. 5. Methods of fighting on deck. 6. Prisoner or come-along holds. 7. Use of basic weapons and clubs.

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Under no circumstances are attempts made to develop seasoned men for personal combat but rather to develop a raw recruit into a keen and alert fighting man. The time allotted and mass instructions (120-240 per class) do not allow this type of schedule. Extra instructions, however, are given to those men wishing advance training during their leisure periods.

A difficult problem is the treatment of the older age group. Whereas in February, 1944, approximately 5 per cent of the recruits ranged from twenty-eight to forty-five, by August this percentage had changed to 25 per cent. By September, 1944, the older men were present only to the extent of 5 per cent. We know that men twenty-eight to forty-five do not possess the agility of the men eighteen to twenty-seven. Even so, they must be taught the techniques of personal combat along with younger men. The two age-groups must be given an opportunity to acquire the knowledge of each other's habits during the periods of stress. This method of training creates better teamwork, a condition necessary during battle.

Many of these men lack confidence in their physical condition, believing that at this age they are unable to stand body-shock activity. This fear or belief must be broken for the enemy makes no allowance for age when fighting. The men have been out of school for so long that to condition them for body contact offers various problems. Much attention is given to this group during the tumbling and blocking-dummy instructions, concentration, being put on the development of their confidence to take a certain degree of body shock. Once this instruction is presented, the actual combative training becomes less difficult.

Physical Education Apparatus You Can Make

(Continued from page 14)

should always be provided at the proper places. All stunts should first be learned with the rings stationary, and with a spotter to assist. The spotter should be on hand for every new venture, and until confidence by the performer is complete. The rings *must* be supervised. If protective measures are rigidly adhered to, there should never be a fall of any consequence.

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sired at any time to use a trapeze, the bar construction in the diagram may be used. The bar merely replaces the rings. When not in use the rings and trapeze are pulled up to the ceiling with a small rope working through a pulley.

All of the apparatus herein discussed is practical, easy to construct, and adaptable to any physical education program. The only difficulty that might be encountered will be that of attaching some of the apparatus. This may be overcome by the physical director, in consultation with the school shop man. Visits to the local smithy and with the local welder will be found beneficial. The small amount of trouble involved will be forgotten when the following gains are summed up: a revival of interest in gymnasium work by all participants, a greater degree of achievement and development, increased community interest in the physical education program, and increased financial support.

The Track Coach's Duties in February

(Continued from page 14)

physical examination with special emphasis placed on the vital organs. In many ways, the first month is the most important because it is then that the foundation is laid. It is during this period, also, that correct form should be stressed in each event. This is the time when athletes need expert counsel regarding the care of their feet, legs and bodies. An intelligent training plan is needed to develop endurance, speed, strength, and skill, that is, just what the average athlete will have to do to get into condition. He should be carefully taught how to proceed in training for his event; and since training varies according to the demand of the different events, knowledge of the amount and kind of necessary work is very important.

Conditioning should start four to six weeks before competition in most events. Soon after the coach calls the squad together for practice, he begins to advise the members regarding the important factors of athletic training, namely diet, elimination, exercise, rest, sleep, and the harmful effects of stimulants and worry, together with the general care of the body with particular emphasis on the care of the legs and feet, and the necessity of the warm-up period. Preliminary season training requires no elaborate system of exercises, but it does need intelligent planning. This early season training consists, in the main, of jogging, running and walking with some time devoted to upper-body development, with much emphasis placed on stretching and supplying exercises. The aim is to develop muscles that are supple with the ability to explode into action and then relax.

Building Man-power for Victory

As we enter into the fourth year of war, we know the importance of basketball and our other competitive sports to our fighting men and our potential fighting men. America's sports have *proved* their importance—as a part of physical war training—as a vital part of rest and relaxation for fighting men—as a source of exercise—body-building—health and high morale for all our people. Today, the great bulk of Wilson Sports Equipment is going to the Government for "the boys." What is available for civilian use will be fairly apportioned and shipped as promptly as possible. One thing remains unchanged, however. As always, you can count on *Wilson quality.* Wilson Sporting Goods Co., Chicago, New York and other leading cities.

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Much time should be devoted by the track athlete during this period to learning and practicing form, and to acquiring the ability to work without tension. This beginning period should be started slowly and increased gradually, reaching a maximum by the time the competitive season starts, when it is necessary to ease up on the hard work, and to conserve energy mainly for competition.

The coach should bear in mind that a track team should be coached as individuals because of the difference in muscular and nervous make-up, and for this reason the proper amount of daily work varies for each man. While the coach's principal task in this early period is the teaching of technique in the various events and outlining an intelligent schedule of exercises to help athletes reach top-physical condition, there is another side to training that he should not overlook. During this period, he should also analyze the physical and mental make-up of his candidates so that he can help them develop ambition and self confidence. Contests are usually won with the head and heart.

Snap Ball, A New Game

By E. R. Abramoski
Athletic Director, Erie Technical High School

RETURNING 'teen-aged soldiers home on furloughs, have often bemoaned the fact that in the various camps and outposts scattered throughout the globe there is a lack of facilities for sports and recreation. The terrain is, in many instances, unsuited for the popular American sports such as football or baseball, and facilities and equipment are not available for other popular games. Many of the returning men have cited a dire need for a new game that could be played in a small area with a minimum of equipment.

It was with those factors in view that experiments were tried in our small gymnasium to attempt to develop a game that would meet with the above requirements. After several attempts and experiments, we finally combined the features of two of America's outstanding games, football and baseball, to evolve a hybrid game which we have labeled snap ball.

Although still in its experimental stage, the younger boys in Erie, Pennsylvania, are playing the new game that shows promise of gaining popularity, and perhaps of spreading widely during the present conflict. It may be assumed that the game, even before the war is over, will be added to the already copious repertoire of instructors in physical education, who seek a fast-moving, inexpensive-to-operate game, that can be played almost anywhere.

Snap ball, being especially designed for limited playing facilities can readily be played on any gymnasium floor, large room, a small clearing, on the beach, a vacant lot, or on the deck of a ship. The other requirement of the game, that only a football, or a reasonable facsimile thereof, is needed to play the game, will appeal to the physical education fraternity, and to the boys as well.

The game may be played either of two ways, by teams with nine men on either side, as in baseball, and in which four bases are used to play the game; or it may be played by smaller groups with only one base and home being used, the players moving up a position with each put-out as in "scrub" baseball.

In the team-game, the players take up their positions in much the same manner as a baseball team would. There is no pitcher in the game but a man is placed in approximately the same position that a pitcher would occupy, and he is called a short center. It follows that there is also no catcher in the game. The man occupying a similar position is actually a fourth baseman, or a guardian of home plate, and thus we call him a home. The remaining seven positions are identical with the positions in baseball, and therefore the same names are used to designate them. Namely, first and second base, shortstop, third base, right, left, and center field. Starting with home, then short center, the above is also the order used in snapping the ball.

After the players of the defensive team have assumed their positions on the abbreviated diamond, the game is started by the first offensive player, the "home" (if the above snapping order is used), assuming a football center's, or snapper's stance, with his tail to the outfield, and the ball resting with its long axis toward the field, who places his hands over the ball, and in one continuous sweep, or motion snaps the football to anywhere within the field of play. Instantaneously he races for first base. If he arrives at first before the ball, he is ruled safe. If not, he is ruled out. Once a player reaches first base safely, it is then up to the succeeding offensive players to advance him from base to base to get the run home as in baseball.

A Few Simple Rules

A fly ball catch is *not* an automatic put-out. *Every fielded ball must beat the runner to the base.*

The play on bases is the same as in baseball. The runner must be touched with the ball before he reaches the base, except, of course, when the ruuner is forced. Then merely touching the base before the runner, by the defensive player with the ball in his possession, puts the runner out.

An indoor baseball diamond is used with the bases twenty-seven feet apart.

The short center must remain behind a restraining line twenty feet from home, until the ball is snapped.

A man on base must stay on the bag while his team mate, the snapper has the ball in his possession.

Stealing a base is not permitted.

A baserunner cannot overrun his base without incurring the risk of being touched out.

It is important to note that the snapper is prohibited from lifting the football off the base when snapping. Lifting the ball is ruled a foul, and three such consecutive fouls constitute an out. The ball must be snapped from the base without lifting.

Any ball snapped out of bounds three consecutive times is ruled a put-out.

Rolling the ball slowly back to simulate a bunt is prohibited. The ball must be snapped.

Three put-outs retire the side and bring their opponents up to snap.

Snap ball was first introduced to the boys in the intermediate grades, where it was enthusiastically received. We next tried the game with the boys in the senior grades, and here too, the boys took to the game like ducks to swimming, and shortly after the game was explained to them, they were snapping and passing the ball around in true American fashion, with gusto.

From my observation of the game as played by the older boys, I am confident that the game will be received with the same enthusiasm and spirit when, and if, it is introduced to our men in the various camps and outposts throughout the war theaters. I am further certain that the game will provide diversion, entertainment, and a good deal of pleasure in those places where there is a lack of facilities and equipment to play such games as football, basketball, baseball and other American sports that our boys are accustomed to playing. The wastes of the Aleutian Islands, the beaches of the South Pacific, the clearing in the coconut groves, the runway at an out-of-the-way air field, or the deck of a ship may be used to play a game that will supply vigorous entertainment and amusement.

As a non-contact game, it is suitable, and easily played by the adolescent either in the school gymnasium or on the playground. Physical instructors have long sought a game that would teach the gan-

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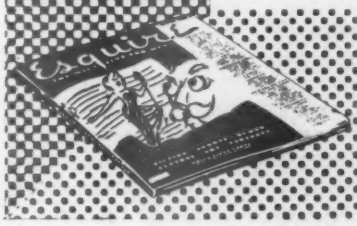

East and West team managers, Connie Mack and Mel Ott, line up with the victorious East team of 1944.

ZIPP NEWMAN,
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*Proceeds of $23,000 from the All-American Boys Game, played last year at the New York Polo Grounds, were given to the Living War Memorials Commission.

AMERICA'S LEADING GENERAL MAGAZINE ON SPORTS Esquire

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gling, growing youth the fundamentals of football without exposing the lad to injury. Snap ball affords that opportunity for it teaches the adolescent the rudiments of handling the football. It stresses passing in all its forms, center snap, forward pass, lateral pass, basketball pass, and backward pass.

In conclusion, I will say that the instructor who adds snap ball to his curricula will be more than repaid for his effort, by the enthusiasm with which the game is received, and by the skills which the game develops for two of our most popular major sports, baseball and football.

The Future of Intramural Programs

By Howard G. Mundt

Athletic Director, Carleton College

AT A time when most colleges and universities are still sparsely populated with male students, it is essential that plans be made now for postwar athletic programs which should reach practically every undergraduate. The college intramural program must be developed to a high degree. The welfare of *all* students must be taken into consideration, and not only those superior athletes who participate on our varsity teams. Many schools have always done a good job with intramurals, but there is still room for improvement. Much has been done in theory, not enough in practice.

We read a great deal about the proposed improvements in athletic set-ups after the war—the plans that many intramural directors, physical educators and coaches have for their institutions. All this is to be commended. There are many excellent programs in the making. What is also needed are men in position to advance such plans in the proper places. It may be that government aid financially will be necessary. Planning now what is needed for the future, with responsible men at the helm will alleviate the "floundering" period which most likely will come after the war is ended.

After the First World War, the cry went up for more athletics of various types. That was probably the time that intramural programs got their real start. Not too much was done. We should have learned a good deal from that experience, and should learn more from this one. We should all realize the valuable contribution of a well-set-up athletic program.

Going back in the files to the "Proceedings of the Thirteenth Annual Convention of the National Collegiate Athletic Association," December 27,1918, we find the following statements:

"One of the most definite lessons taught by the World War is that athletics have real military value. They serve for the development, agility, endurance, courage, judgment, adaptability, and perseverance. They also have military values by affording wholesome mental and physical recreation." Dr. C. L. Meylan, Columbia University.

"I believe the War Department, like a good many university faculties needs a good straight right from the shoulder to the effect that they may both be made to do less talking in favor of physical education, and provide more time and a little more deference to the abilities of the physical-educated athletic director." Professor Roger H. Motten, Colorado College.

"Now is the time for reform in athletics. Just what shall we reform and how shall we best accomplish this reformation? Our motto should be athletics for everybody and everybody in athletics." E. Herbert Botsford, graduate Manager, Williams College.

The above statements show that thought was being given in 1918 to the future of athletic programs, just as there is today. Let us not make the mistake of again waiting too long for proper leadership.

We must all realize that physical education, intramural and athletic programs should be integrated. One is as important as the other to different individuals. If this is true, all should have the same attention and place in the curriculum. If any one of them is being neglected, then the other phases may as well be abolished. All phases should be evenly balanced. All phases have wholesome results. All phases should dovetail. There must be no antagonism.

Ambitious programs such as are being planned will naturally have critics, who say that sports have no place, or very little place, in an institution which was originally created as purely an intellectual agency. Colleges and universities are still intellectual agencies, but along with that phase, they have also become agencies for socializing. A program of athletics, besides having a positive physical effect upon students, also prepares the undergraduate in social aspects that are so necessary in life. Education is well defined by Lewis Meriam and associates in "Problems of Indian Administration," 1928.

"The real goals of education are not 'reading, writing and arithmetic'—but sound health both mental and physical, good citizenship in the sense of an understanding participation in community life, ability to earn one's living honestly and efficiently, in a socially worth-while vocation, comfortable and desirable home and family life, and good character. These are the real aims of education-reading, writing, numbers, geography, history and other subjects are only useful to the extent that they contribute to these fundamental objectives directly or indirectly." It is sometimes difficult to convince critics that a sound and well-balanced program of athletics has a sincere relation to the intellectual life of the college. If our athletic programs are so well administered that their place in the college commands the respect of faculty members, then the job has been well done, and the future of this very necessary program assured.

We all know and have heard many times of the objectives of intramural programs, such as recreation, group spirit, better health, joyous participation, skills etc. They most likely are all by-products of athletic programs, but if the programs do not reach the many, then all the objectives are for naught, and it ceases to be a program. The program must contain meaningful and purposeful activities. In order to have such activities, the intramural program must be given proper supervision. Too often the coach is given the added responsibility of administering the intramural program along with his coaching duties. Such practice should be discouraged. Coaching alone is a full-time job, and intramurals are too important to become incidental. Then too, under such a set-up, the coach is often accused of being interested only in the development of varsity material. Intramural programs, set up primarily for the development of varsity material, cannot be conceived as educational. If hidden talents, however, are discovered in such programs, more power to them.

The intramural program of the postwar period then, will have an important place in the general educational scheme. In making preparation for such future programs, we would do well to seriously consider and work toward the following points now.

1. Leadership in state and national organizations for the purpose of promoting the proper type of athletic program.
2. Better supervision, with individuals specifically trained in the administration of the various phases of athletic programs.
3. The integration of physical education, intramural and intercollegiate athletic programs.
4. Carrying out to the fullest extent of the objectives.
5. Promotion of a clearer understanding of the function of athletics in the educational scheme.
6. An increase in the opportunities for participation.

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Can College Baseball Come Back?

By Homer M. Dunham
Publicity Director, Western Michigan College

WILL collegiate and high school baseball come back after the war to the spot that it held in the years prior to the depression? Not only will there be as great a number of colleges, universities and high schools sponsoring teams, but also will there be coaches who really know the fine points of the game. That may be a possibility if the colleges and universities live up to the present expectations that they will continue in days of peace the recent and present stepped-up physical education programs.

Few of the colleges and universities of the country have, today, or had just prior to the outbreak of the war, good collegiate baseball programs. Some of these few collegiate teams, however, were teams which were suffering from malnutrition due principally to two facts. One of these was that when the depression hit, most college and university athletic departments felt that they must retrench financially. That meant cutting budgets. In cutting budgets, collegiate baseball was somewhat of an orphan in that the coaches had no national organization behind them. It was more or less defenseless. Hence, if baseball was not done away with entirely, a good coach who knew something of the sport from an inside way was cut loose from his job and some other member of the department, regardless of his lack of knowledge of the game, was handed the coaching job. Only a few tried, and did continue baseball as it had been. Another fact was that the cutting of budget meant little in the way of new equipment and that not usually good or plentiful; trips to meet good competition were not always possible with so many colleges having dropped the game.

As a result, all baseball has suffered, not only collegiate baseball, but high school and league baseball as well, in the years since that time, and unless there is a complete right about face, they will continue to suffer.

Indirectly a third fact as to why baseball was to suffer has been mentioned. It is the fact that it did not have a national intercollegiate coaches organization behind it. Football, basketball and track did have. Hence each baseball coach was a lone wolf. Some may argue that football and basketball were continued because they were money games. True to a big extent, but that reasoning does not hold for track. And in this connection, we sometimes wonder how many colleges ever really tried to make collegiate baseball a money game to the extent that it would at least pay its way?

In the fifteen years, since the depression hit, some hundreds of collegiate baseball players have been graduated, many of them from colleges where baseball had become a side issue with almost anyone shoved into the job of coaching the team, regardless of his lack of experience or knowledge of the game. As a result, many of those players have finished their collegiate careers and gone into high school coaching with little or no practical knowledge of the inside of the game. The result is easily pictured. Hundreds and hundreds of high school baseball teams over the country since that time have been playing out schedules year after year with little knowledge of the inside "stuff" that really makes the game. They could be expected to acquire little inside baseball knowledge when their own coaches did not know it.

As a result in the latter years, the crop of outstanding college baseball players has dropped with few exceptions. Players have gone to college with considerable native ability in baseball but with little real knowledge of the game, and of the fine points which make it highly interesting and attractive. Many colleges with baseball teams—with few notable exceptions—have not done much to increase the native ability with clever baseball coaching and to aid it to any great degree with inside baseball knowledge.

The result has been that the major leagues have not begun to pick up the number of good college players that might have been possible under other conditions. The comparatively few times that the majors have signed an outstanding collegian, the fact has been heralded far and wide in the press, so unusual has it been. Perhaps a score of colleges in all which played along with their old coaches and continued as in former years have made the big majority of these contributions to the majors.

Others have seen players signed by major league clubs to be farmed out to minor league clubs in the hope that perhaps some little of this ivory might polish. Most of it has continued to "wallow in the mire" of the minors because of the lack of inside baseball knowledge on the part of the players as few minor league clubs have had coaching staffs sufficient to promote this knowledge. The manager was busy trying to win games.

Baseball is essentially the American game. It is a good game. A great many coaches and athletic directors have been working to save it in the colleges through the past fifteen lean years, among them may be mentioned such fine builders as Clint Evans, California; Harry Wolters, Stanford; Ray Fisher, Michigan; Frank Thomas, Alabama; John Kobs, Michigan State; Don Peden, Ohio University; Jake Kline, Notre Dame; Jack Barry, Holy Cross, Judson Hyames, Western Michigan.

In recent months Hugh Fullerton, Jr., of the Associated Press, has been "plugging" to promote baseball and get it back to the collegiate spot that it formerly held. He has columnized considerably on the subject and quoted a number of coaches. He has talked with many others. Nearly all of them are deeply interested, but apparently each feels that someone else should take the lead.

In the effort to bring back the game both in colleges and high schools with good coaching to come in the future, Fullerton has urged, and is urging, a national intercollegiate baseball coaches organization. He has gone far and wide for reasons why such an organization is needed and what it might do for the game.

Right here in that connection, it is only fitting to pay tribute to the American Legion for its efforts over the past twenty years in keeping baseball alive. It has done a great work but those efforts must be backed up in the colleges and the high schools, if collegiate and interscholastic baseball is to survive and, perhaps, with it high grade major league competition in the distant future.

It would seem that now is time for college and university baseball coaches to organize and start boosting their sport as they have never boosted before.

Such an organization could take immediate steps toward the improvement of college and scholastic baseball coaching in respect to making baseball the primary coaching interest of the coach instead of a secondary interest. It might make possible the building of stronger schedules for most college teams. It could consider the overhauling of baseball rules and customs to make them more adaptable for college and high school use, particularly in regard to week-day games where time is an important factor. It might make possible publication of a college baseball guide such as the National Collegiate Athletic Association has for almost everything else in the way of collegiate sport, or it might arrange for a college section in the regular baseball guide as formerly. It might aid in keeping, and evaluating of, collegiate baseball statistics and thus aid in giving them an added interest for more extensive publication than has been the case. It might arrange awards for batting, pitching and other champions.

Other things that such an organization might make possible would, perhaps, be

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an arrangement whereby major league teams might come to draft college players when they have finished their collegiate careers rather than have them step in and sign college men as sophomores and juniors for fear some other club might beat them to the player.

Perhaps such an organization might make possible a code of ethics among the college coaches whereby none of them would become ivory hunters for some major league club. We have heard of instances, but have not "dug" into the stories, of some college coaches who have signed their own players to league contracts for a certain team before they had finished their college playing careers, fearing that some other scout might beat them to it. Such coaches cannot well serve two masters. Luckily, such coaches are few and far between.

Undoubtedly there are numerous other avenues into which a collegiate baseball coaches organization could delve for the benefit of the game, not the least of which might be some real coaching schools for high school coaches and their players in the various states, a thing that some colleges have tried to do in various years recently passed. It would be much different from the major league coaching schools of past years which have been mainly only a hunt for youthful players who might show signs of developing into talent usable by the majors after a sojourn of some years with minor league farms.

In fact, if an organization could be developed with good leadership in building collegiate baseball, and in aiding high school players and their coaches to a greater development in the game, the major leagues undoubtedly would come to see the extreme value of such an organization and in coming years might extend cooperation which would be mutually beneficial to all.

Perhaps a real drive to promote collegiate baseball might put it in the class of paying sports in the colleges or at least one that would break even financially. It has been proven by a few that this can be done but in any event it could be made to fit in well with the post-war physical education and athletic programs, which must be enlarged to a considerable degree.

If the athletic and physical education department heads do not hurry with a consistent and greatly enlarged program for the American youth in the post-war period, they are going to find that the armed services of the country are apt to demand plenty of physical education time in their physical education programs in connection with post-war military training for the youth of the country. It must come one place or the other, probably with the services doing less in a physical fitness way, if the colleges and universities do more.

Baseball and Softball for the Post-War Program

By Robert L. Erd

ALTHOUGH the merits of baseball and softball—the offshoot of baseball—have many times been emphasized they are of such great importance that they will bear repeating.

As a result of the war, an increased emphasis has been put on all sports from the conditioning angle. Already physical educators are preparing their post-war programs. These, I believe, will be stepped-up programs and extensive in kind. As many worth-while sports as possible will be included and the programs will be far-reaching.

I should like to put in a plea for baseball and softball. These sports are superior to many forms of athletics in several respects. They do not necessarily require the facilities that other sports require. So-called scrub games may be played on sandlots, city-park playgrounds; young and old may play them and girls enjoy the game.

Baseball lays a strong foundation for future skill and expertness, delicate accuracy, fine co-ordination of mind and body. It fosters a spirit of athletic participation and leads to the formation of good habits of physical activity in childhood and youth.

Baseball probably more than any other sport contributes to the success of other sports, such as football, track and basketball. A famous football coach is authority for the statement, "Most coaches, even football coaches, agree that a star baseball player would make good at any form of sport. He must have speed of foot and eye, be agile in every muscle, have a strong throwing arm, and be rugged and strong physically, to stand up under the daily play.

Speaking of American successes at Olympic games, John B. Foster, editor of the Spalding Official Baseball Guide of 1915, says, "I am a prejudiced judge, but I believe the whole secret of these continued successes is found in the kind of training that comes with the playing of America's national game, and our competitors in other lands may never hope to reach the standard of American athletes until they learn this lesson and adopt our pastime.

"The question, 'When should the training of a child begin?' has been wisely answered by the statement that it should antedate his birth. The training of baseball may not go back quite that far, but it approaches the time as nearly as practicable, for America starts training of future Olympic winners very early in life. Youngsters not yet big enough to attend school begin quickening their eyesight, and sharpening their wits, and strengthening their hands and arms and legs by playing on baseball fields ready at hand in the meadows of farms, the commons of villages and the parks of cities all over the land. Baseball combines running, jumping, throwing, and everything that constitutes the athletic events of the Olympic games. But above all, it imparts to the player that degree of confidence in competition, that indefinable something that enables one athlete to win over another who may be his physical equal but who is lacking the American spirit begotten of baseball.

"An analysis of the 1912 Olympic games shows that the Americans showed to best advantage in contests where the stresses of competition was the hardest. In the dashes they were supreme; in the hurdles they were in a class by themselves; and in the high jump and pole vault, there was no one worthy of their steel. Whenever quick thinking and acting were required, an American was in front. Does not this fact prove that the American games of baseball enables the player to determine in the fraction of a second what to do to defeat his contestant?"

George Moriarity, American League baseball player and umpire, who for several years has been trying to interest the youngsters in baseball by visiting schools and delivering speeches on the fundamentals of the game, says about the decrease in interest in the national game among the school boys and sandlotters: "Baseball is not taught on the sandlots and as a result the average youngster grows up with the idea that the Babe Ruths, and Ty Cobbs are born, not made.

"As a matter of fact, no doctor, lawyer, or engineer who has become famous, has labored against stouter difficulties and obstacles than these baseball stars to reach the pinnacles.

"The average school boys and sandlotters, struggling along with nothing but their own meager knowledge of baseball, eventually come to the conclusion that the

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game is too scientific for them.

"As the result, fully 90 per cent of the youngsters quit playing baseball while they are attending high school. It does not take a wizard to figure out why other sports have developed many stars of the first magnitude in the schools, while the expert baseball player is the exception.

"I have found, wherever it has been possible for me to talk to the boys informally, to give them the fundamentals of baseball, and to explain to them just what is necessary in order to succeed in the game, that their response is immediate and enthusiastic."

Moriarity's baseball sport talk, as he calls it, is not a technical lecture on baseball. He meets with the boys informally and instructs them on some of the fine points of the game which they must master if they expect to get out of the sandlot class. School officials have endorsed his plan to interest the youngsters.

For the past several years there has been a decrease in interest in baseball in some schools. This seems to be not the fault of the boys so much as of the school authorities and athletic coaches. There is every reason to believe that their meager knowledge of the "fundamentals of baseball" and of the technique of coaching have caused the indifferent attitude of these coaches towards baseball. They have given overemphasis to football, basketball, and track and field games, and have scheduled too many games, and paid too much for equipment and necessities in these sports. Baseball should be given its proper place alongside other school athletics in a broad program of physical education.

H. Addington Bruce, writing on *Baseball and the National Life* in an issue of Outlook magazine, says: "Veritably, baseball is something more than the great American game—it is an American institution having a significant place in the life of the people, and consequently worthy of close and careful analysis.

"Fully to grasp its significance, however, it is necessary to study it in the first place, as merely a game, and seek to determine wherein lies its peculiar qualities of fascination. As a game, as something that is playable, it, of course, must serve the ordinary ends of play. These, according to the best authorities on the physiology and psychology of play, are threefold: the expenditure of surplus nervous energy in a way that will not be harmful to the organism, but, on the contrary, will give needed exercise to growing muscles; the development of traits and abilities that will afterwards aid the player in the serious business of life; and the attainment of mental rest through pleasurable occupation.

"Until recently it has been customary to emphasize one or another of these purposes and motives as affording the sole reason for play. But scientists are beginning to appreciate that all of them may be operant in determining the action of the play impulse, one motive being influential in one instance, the second in another, the third in yet another, or all three in combination. As between the three, though, the preparation motive would seem to be uppermost, at all events in the play of childhood and youth, children instinctively favoring those games which, although they are completely unconscious of the fact, tend most strongly to form and establish the characteristics that will be most serviceable to them in later years.

"Physical fitness, courage, honesty, patience, the spirit of initative combined with due respect for lawful authority, soundness and quickness of judgment, self-confidence, self-control, cheeriness, fair-mindedness, and appreciation of the importance of social solidarity, of team play—these are traits requisite as never before for success in the life of an individual and of a nation. They are traits developed to some extent by all outdoor games played by groups of competitors. But, it is safe to say that no other game—not even football—develops them as does baseball."

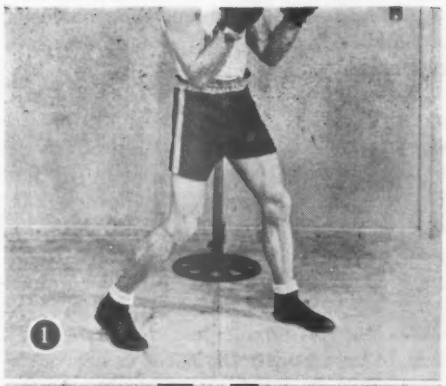
One needs to attend only a few games, whether played by untrained school boys or by the most expert professionals, to appreciate the great value of baseball as an all-round developmental agent. Habit of sobriety and self-control are established in the players if only from the necessity of keeping in good condition in order to acquit themselves creditably and hold a place on the team. Patience, dogged persistence, the pluck that refuses to acknowledge either weariness or defeat, are essential to the mastery of the fine points of batting, fielding or pitching—a mastery which in turn brings with it a feeling of self-confidence that eventually will go far in helping its possessor achieve success off, as well as on, the diamond. It takes courage of a high order to play infield positions, as they ought to be played, for example, when stolen bases are imminent; and, for that matter, it takes courage to steal, too, when the runner knows that he is likely to be blocked off by some courageous infielder of the type of the two Wagners of Pirate and Red Sox fame. So too, courage, and plenty of it, is needed at the bat—courage not simply to face the swiftly moving ball, but to crowd the plate, so as to handicap the pitcher in his efforts to perform successfully and expeditiously the work of elimination.

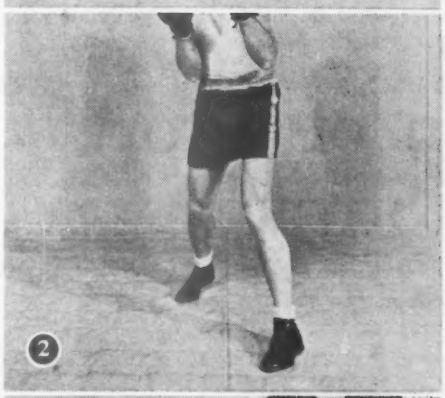
As an agent in the development of team spirit and self-forgetfulness, baseball is no less notable. The term sacrifice hit eloquently expresses one phase of the game which must leave on all playing it an indelible impression of the importance in all affairs of life of unselfish co-operation. The extent, indeed, to which baseball tends to inculcate the lesson of subordination of self for the common good is well shown by a little story the writer heard not long ago regarding two professional baseball players. One was the shortstop, the other the second baseman of a major league team, and consequently they were required by the duties of their positions to work more closely together than any other members of the club except the pitcher and catcher. One day, the story goes, they had a quarrel, so bitter that for the remainder of the season they did not address a word to each other when off the diamond. But, once the umpire had cried "Play ball!", their antagonism was temporarily stopped, and they fought the common foe in a complete accord as though they had been the best of friends. Surely a game that can develop such a social consciousness, and conscience, is a game of which any nation may be proud, and to which it may well feel indebted.

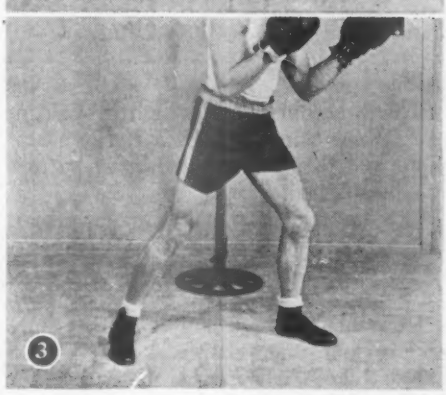
Besides aiding powerfully in physical and moral development, baseball is also a splendid mind-builder. The ability to think for oneself, and to think quickly, is fostered by the duties of its every position, as well as by the complicated problems that are constantly arising in its swiftly changing course of events. Time and again, games have been won, or the way has been cleared to victory, by the quickness of a player or a manager in appreciating the possibilities of a critical situation, and instantly making a definite plan of campaign to meet the emergency.

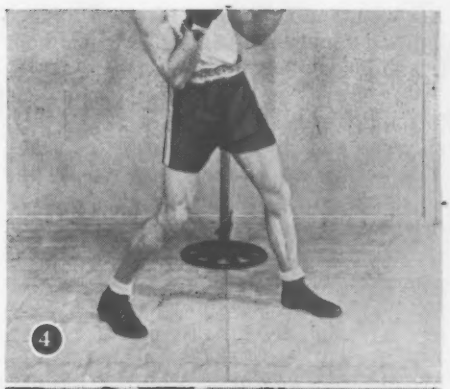
Lacking the strength, skill, and experience of the professional player, the schoolboy whose efforts are confined to the diamond of the vacant lot or public park plays the game under precisely the same rules as the professional, and with no less zest and earnestness, and profits correspondingly. To be sure, in playing it, he does not for an instant realize that he is thereby helping to prepare himself for the important struggles of maturity. He plays it because he finds it good fun, because in its variety and rapidity of action, in the comparative ease with which its fundamental principles may be learned, and in its essentially co-operative yet competitive character, it affords an intensely pleasurable occupation. It is, in truth, a game which makes an irresistible appeal to the instincts of youths and adolescents as well as grown-up people, because it so admirably meets the principal objects of play, mental rest through enjoyment, exercise for muscles and nerves, and healthy expenditure of surplus nervous energy.

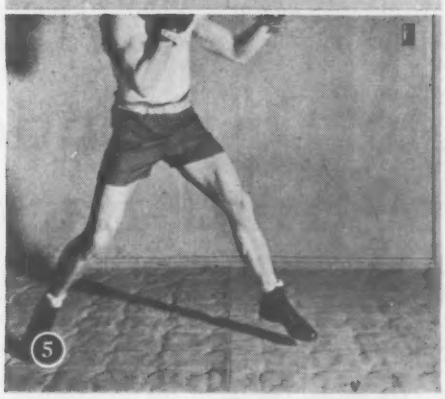
Baseball is more nearly adapted to the physical condition of the average student body than is any other of the major school sports. It is played under the most favorable physical conditions and the lungs of the players are constantly filled with the purest air available. The baseball player needs only that good every-day-physical-condition that all should strive to maintain; he plays the game and need give no worry over the possibility in later life of paying the price for physical overstrain in sport. It is not necessary to spend added time in building up either his wind or his

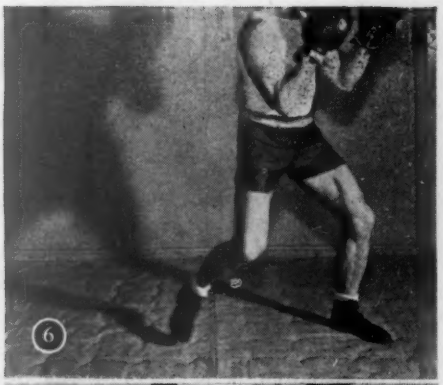


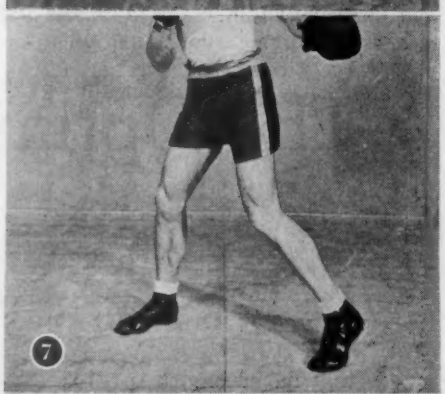












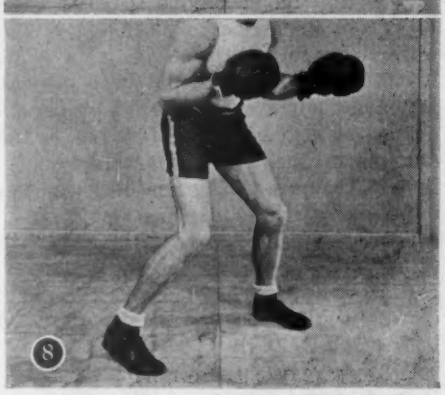


Illustration 1 — A Good Stance — Side View. Notice the perfect body balance. The pole in the rear is aligned through the center of the body. The boxer is in excellent position to advance or retreat. Note that both legs are flexed, and the toe of the rear foot is pointed diagonally forward and not to the side. The heel of the rear foot is slightly raised. The front foot is flat on the mat, but the body weight is carried on the ball of the foot.

Illustration 2 shows a good stance—Front View. Note the straight line on the mat. The rear foot is correctly lateral and to the rear of the front foot. This affords a four-point foundation, which permits the boxer to advance, retreat, or to move his head laterally for slips and ducks. Note the legs are flexed and both toes are pointing diagonally forward.

Illustration 3—An Off-Balance Forward Stance. This stance is incorrect since the head is over the front foot and the boxer cannot advance by lifting the front foot first. Note the rear leg is straight and the right toe is pointed to the side. These two points are incorrect. Note the alignment of the pole in relation to the body. A boxer from this position can retreat and counter-punch.

Illustration 4 shows another incorrect stance. The head is over the rear foot, thus preventing the boxer from the correct retreat by lifting the rear foot first. From this position, the boxer can advance successfully for combination blows.

Illustration 5—A Correct Advance. Note the front foot is slightly off the mat. The drive, the snap, or the push comes from the rear leg. Note also that the left hand is partly extended. As the left foot makes contact with the floor, the left jab should make contact with full arm extension.

Illustration 6—A Correct Retreat. Note that the rear foot is slightly raised first and that the legs are already flexed before the start of retreat. The drive, the snap, and the push come from the front foot.

Illustration 7 shows correct footwork for the left hook. The boxer's first step is to move the front foot forward first, toe pointing forward much like on a left jab. The foot will land a little more to the left than on a jab since the left hook comes from a lateral angle and this wide position offers a better foundation and driving force. This illustration shows the second step of the left hook. Note that the toe is not forward now but has turned in the direction of the blow. Note also that the left elbow is flexed when a left hook is delivered.

Illustration 8—Footwork for Infighting. Note that the right foot has been moved forward, and that the toe of the right foot is nearly aligned with the heel of the left foot. The legs are flexed and the hands are low and preferably on the inside of the opponent's two hands. The heel of the rear foot is still slightly raised. From this position, the boxer has a good solid lateral stance, but cannot advance or retreat as effectively.

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In seeking the attainment of 100 per cent participation in sports in schools and colleges, the organization, supervision, instruction, and training of intramural baseball and varsity baseball teams should hold a high place.

Our sports are not self-centered; the physical fitness of the player is not their only end and object, the game's the thing. This *objectivity* of our sports reflects the objectivity of our people, which is certainly a strong element of our national sanity. It is clearly indicated in our partiality for games of ball. Most of our popular games are played with an object—a ball. Baseball is essentially a ball game as basketball, football, handball, golf, tennis and the like. It was designed in its present form by an American ninety-seven years ago and is played in schoolyards, in village streets, on sandlots, and or in great stadiums. It is our national sport.

Baseball not only develops the body, but it also develops in a man keenness of observation and quickness of perspection. It makes him react instantaneously so that his decisions are prompt. It develops initiative more than anything else does. A man learns to think quickly in an emergency, to be strategic, to watch his opponent, and to outwit him if possible. He learns the invaluable lesson of co-operation, of teamwork. He learns to be a game loser when he must, and a generous winner when he can.

The Optimum Distribution of Effort in the 150-Yard Back Stroke

By Dan Kinsey

Assistant Professor of Physical Education, Oberlin College

ONE of the most frequent questions that the swimming coach is asked by his back-stroke candidates concerns the pacing of their races. He wants to know how fast he should swim his first fifty and his first one hundred yards in order to get his best time. Just how is the swimming coach to answer these questions? It was with this coaching problem in mind that an investigation was made.

More specifically, then, the investigation seeks the answers to three questions:

1. How do the champion back strokers distribute their energy in the 150-yard back stroke?

2. Do the better champions distribute their energy any differently than the lesser champions?

3. Can one establish a chart of the optimum distribution of times based on the pattern of the champions that would be of service to the mediocre swimmer as well as to the champion?

QUESTION 1. How do the champion back strokers distribute their energy in the 150-yard back stroke?

The champions selected for study were those who swam in the finals of the annual National Collegiate back stroke championships. Fortunately, the annual *Swimming Guide* has published these times ever since the 1938 swimming championships. These recorded times cover the performances of thirty-nine champion back strokers. How did they distribute their energies? What was their pattern?

In order to determine any swimmer's racing pattern, his *actual times* for the fifty and hundred were subtracted from his theoretical *even times*, that is, the times he would have made had he swum his race evenly all through the 150 yards. The remainder or *deviation* from even time establish the racing pattern of that particular swimmer.

Optimum Timing in the 150-Yard Back Stroke

EXAMPLE

	50	*100*	*150*
Even Time	35.0	1:10.0	1:45.0
Champion's Pattern	–3.3	–2.7	0.0
Optimum Time	31.7	1:07.3	1:45.0

Optimum Times

50	*100*	*150*
26.7	57.3	1:30
27.0	58.0	1:31
27.4	58.6	1:32
27.7	59.3	1:33
28.0	1:00.0	1:34
28.4	1:00.6	1:35
28.7	1:01.3	1:36
29.0	1:02.0	1:37
29.4	1:02.6	1:38
29.7	1:03.3	1:39
30.0	1:04.0	1:40
30.4	1:04.6	1:41
30.7	1:05.3	1:42
31.0	1:06.0	1:43
31.4	1:06.6	1:44
31.7	1:07.3	1:45
32.0	1:08.0	1:46
32.4	1:08.6	1:47
32.7	1:09.3	1:48
33.0	1:10.0	1:49
33.4	1:10.6	1:50
33.7	1:11.3	1:51
34.0	1:12.0	1:52
34.4	1:12.6	1:53
34.7	1:13.3	1:54
35.0	1:14.0	1:55
35.4	1:14.6	1:56
35.7	1:15.3	1:57
36.0	1:16.0	1:58
36.4	1:16.5	1:59
36.7	1:17.3	2:00

	50	*100*	*150*
Even times	35.0	1:10.0	1:45.0
Actual times	31.8	1:07.7	1:45.0
Racing pattern	–3.2	–2.3	0.0

This procedure was carried through for each of the thirty-nine back stroke champions and then an *average racing pattern* was established.

This pattern of the champions proved to be as follows:

50	*100*	*150*
–3.3	–2.7	0.0

How then do the champion back strokers distribute their energy in the 150-yard back stroke? They swim their first fifty 3.3 seconds faster than their even time and their first hundred 2.7 seconds faster than their even time for that distance.

QUESTION 2. Do the better champions distribute their energies any differently than the lesser champions?

The answer to this question was determined rather simply. All thirty-nine of the champions' times were ranked in descending order, from the fastest (1:33.5) to the slowest (1:43.4). These were then divided into four equal groups and average racing patterns were figured for each of the groups. The results were as follows:

Average Racing Patterns by Quarters

	50	*100*
Highest Quarter	–3.1	–2.4
Second Quarter	–3.3	–2.7
Third Quarter	–3.4	–2.9
Fourth Quarter	–3.3	–2.6

Average Racing Pattern by Halves

Top half	–3.2	–2.6
Bottom half	–3.4	–2.8

Apparently there is a slight tendency for the upper half and upper quarters to deviate less from even time than the lower half and quarters.

Do the better champions distribute their energies any differently than the lesser

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champions? The better champions have a slight tendency to swim *more evenly* throughout their races.

QUESTION 3. Can one establish a chart of the optimum distribution of times based on the pattern of the champions that would be of service to the mediocre swimmer as well as to the champions?

This was done by establishing even times for each of the full seconds from 1:30 to 2:00. From these even times the champions racing patterns (–3.3; –2.7; 0.0) were subtracted. In this way, the optimum time table for the 150-yard back stroke was established.

Planning an Intramural Track and Field Program in a Large High School

(Continued from page 22)

based on the interests and needs of the boys.

Interests and Needs Considered in Setting Up the Program

Preliminary survey tests given to all the boys in the regular physical education classes indicated that a majority of the boys in this group were unable to do the so-called standard events of the interschool program, such as the 100- and 200-yard dashes, the quarter, half and mile runs and the high hurdles. Those who were able to do the events had such poor technique that the activity was not enjoyable to the boys and in many cases dangerous for them. Accurate information concerning the individual history and techniques of the events was totally lacking among the boys.

From these observations it was concluded that:

1. A program of instruction including history, techniques and training methods for each event needed to be set up.
2. The various events included in the program must be within the limits of the ablities of the boys participating.
3. Standards of achievement must be based on the abilities of the boys participating.
4. The boys needed to have continued opportunity to participate in the activities in order to improve their individual techniques and achievements.
5. The program for the three years of senior high school must be progressive so that interest will be maintained.

Setting Up a Program of Instruction To Maintain Interest Through the Three Years of High School.

In order to obtain the best available material for the instructional program, all available text books in track and field activities were consulted, and all issues of current athletic magazines were read and such material as was adaptable, was clearly illustrated and simply written in a form best suited for the boys in the group.

For the boys in their first semester in high school the following events were included: The 100-yard dash, 60-yard, 30 inch hurdles (4 hurdles), shot put, high jump and broad jump. A three weeks' instructional program was divided among the various events, each boy being given instruction in each of the five events, and at the end of the instructional period taking an individual achievement test in each of the five events.

For the boys in their second semester in high school, the following events were included: The 220-yard dash, 440-yard dash, 60-yard 30-inch hurdles (4 hurdles), 110-yard 30-inch hurdles (4 hurdles), the football throw for distance and the pole vault. A three weeks instructional program was so planned as to include all the events listed for the second semester. At the end of the instructional period, each boy instructed in these events was given an individual test in the four events named first in the list for second semester students, and one additional event which the boy chose from the remainder of the list of events.

At the conclusion of the first year in high school the boys experienced sprinting, middle-distance running, broad jumping, high jumping, low hurdling, pole vaulting, shot putting and throwing the football.

During the junior year in high school, an additional three weeks of instruction was given in track and field activities each semester. Tests were given in very much the same way as during the first year. All the events taken up in the first year were reviewed and distance running was included. Each boy then chose five events in which he wished to be tested. The number of points the boy scored in his five events on the achievement scales, developed for this purpose, determined the grade he earned in track and field achievement.

At the conclusion of the program in the senior year each boy in the regular physical education classes has had instruction, has had opportunity for participation and has been tested in all of the types of events offered in the intramural and interschool track and field program.

The test results were recorded on individual report sheets, scored against the achievement scales, bound and filed for reference.

These records are available to the pupil and instructor at all times, and serve as means of motivation for the pupil and as a source of information in understanding the problems of the individual pupil. They serve also as a source of material which when treated statistically serves as a means of improving the program of track and field activities.

Need for Continued Opportunity for Participation

Additional opportunity for participation for the individual pupil needs to be provided for those who have special interests or abilities in the various events.

At the Sacramento Senior High School each boy enrolled in physical education is supplied with an individual steel locker in which gymnasium suits, shoes and supplies may be stored. A quarter-mile track, jumping and pole-vaulting pits with raised and leveled runways, shot-put rings, hurdles, jumping and pole-vaulting standards are available on the field. Other necessary supplies may be checked out from the supply room by the individual student. Showers and towels are available for those who participate in the program. Special instruction may be obtained from the track and field instructors at any time.

This makes it possible for the boy to practice after school hours, whenever he desires, in addition to the regularly scheduled class instruction.

It will be noted that no mention has been made of interschool or varsity track and field activities in the school.

The intramural program herein described serves a purpose quite different and independent of the usual track and field program of the high school by giving boys an opportunity to compete under conditions of equalized competition.

It is altogether possible, however, that a boy may be led into interschool track and field activities through the instructional program outlined above. If such be the case it will probably not occur until the boy has had at least the basic training in the fundamentals of all the types of events offered in the interschool track and field activities and until he has achieved better-than-average results in one or more of the events. Interschool track and field activities may then add additional pleasures to his participation. When the boy becomes a member of the interschool track and field team, he may no longer compete in the intramural program herein outlined.

Evaluating the Work of the Individual Pupil

The achievement scales developed for evaluating the work of the individual pupil are based on the presumption that the maximum, mean and minimum achieve-

ment of a group of sophomore boys is usually lower than that of a corresponding number of junior boys of the same athletic classification in the same event in the same school. That the maximum, mean, and minimum achievement of junior boys is usually lower than that of a comparable group of senior boys in the same athletic classification.

Investigations tend to indicate that particularly during the adolescent years age, weight, and height correlate positively with maturity. Maturity correlates positively with achievement in track and field activities.

Following this type of reasoning, the mature boys should be required to achieve on a higher level than the less mature boys. The achievement scales developed for this program tend to compensate differences in the maturity of the boys. For example: Note (Forms I, II and III).

If a junior pupil of the "A" classification runs the 100-yard dash in 12.0, he scores 583 points; a sophomore student in the same classification who runs the 100-yard dash in 12.0 seconds scores 750 points.

If a junior pupil of "B" classification runs the 100-yard dash in 12.0 seconds, he scores 750 points, but if a sophomore student of the same classification runs it in 12.0 seconds, he scores 812 points.

If a junior of "C" classification runs the 100-yard dash in 12.0 seconds, he scores 812 points, but the sophomore boy of the same classification who runs it in 12.0 seconds scores 875 points.

As indicated earlier in this article, the boys are classified as follows:

A boy weighing 160 pounds 160
Six feet tall (inches x two) 144
Eighteen years old (months).....216

TOTAL.....520

"A" classification (over 474 exponents)
A boy weighing 130 pounds 130
Five feet tall 120
Sixteen years old (months).....192

TOTAL.....442

"B" classification (over 429 and less than 460 exponents)
A boy weighing 120 pounds 120
Five feet tall 120
Fifteen years old (months).....180

TOTAL.....420

"C" classification (less than 430 exponents)

Boys taking physical education are graded at the end of each semester. The grade given is a composite of grades in subject knowledge, subject accomplishment, personal responsibility and social responsibility.

Subject accomplishment in track and field is determined by the score made in the achievement scales as follows:

Over 4000 points .....A Grade
2500-4000 points .....B Grade

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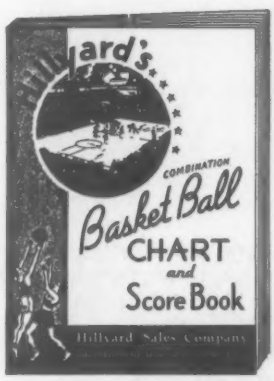

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By classifying the boys into their proper groups and scoring each achievement according to the achievement scales for that level, the work of the individual student may be evaluated.

The track and field program as a whole in the school is evaluated in the following manner:

1. Determine to what extent each boy in the regular physical education classes has had opportunity to receive instruction, opportunity for participation, has been tested individually in five events for a pentathlon score, and has the results recorded for further reference for the pupil and instructor.

2. Determine to what extent the interests and needs of the individual pupil have been taken care of.

3. Determine to what extent the interest of pupils has increased in track and field activities, by checking the number of students who have participated in activities beyond that required in the course of study.

4. Determine to what extent achievements of all the groups in any given year compare with the previous years.

If reasonable success has been experienced in the school in each of the four points during the process of the program, it may be assumed that the program has fulfilled the objectives originally set up.

The present intramural track and field system is an outgrowth of the interests and needs of the boys in the school, as indicated through preliminary survey tests, and resulting courses of instruction, tests, and the development and use of achievement scales for evaluating the work of the individual pupil.

An evaluation of the entire program indicates that opportunities for participation in track and field activities have been increased, that the needs and interests of the individual pupils have been taken care of in an educationally sound manner, that interest in track and field activities has increased each succeeding semester, and that the achievements of the groups have constantly improved since the inauguration of the present plan. The program appears to have fulfilled a long felt need in the Sacramento Senior High School.

FORM I

ACHIEVEMENT SCALES

100 Yard Dash

As

Seniors and Juniors		Sophomores	
11.1	1000	11.3	1000
11.2	970	11.4	970
11.3	916	11.5	916
11.4	875	11.6	875
11.5	843	11.7	843
11.6	812	11.8	812
11.7	781	11.9	781
11.8	750	12.0	750
11.9	667	12.1	667
12.0	583	12.2	583
12.1	500	12.3	500
12.2	417	12.4	417
12.3	333	12.5	333
12.4	250	12.6	250
12.5	194	12.7	194
12.6	125	12.8	125
12.7	104	12.9	104
12.8	84	13.0	84
12.9	63	13.1	63
13.0	31	13.2	31
13.1	or	13.3	or
More	1	More	1

Note: For all performances better than the maximum add 30 points for each tenth second less than 11.1 to 1000 points.

FORM II

ACHIEVEMENT SCALES

100 Yard Dash

As

Seniors and Juniors		Sophomores	
11.3	1000	11.5	1000
11.4	970	11.6	970
11.5	916	11.7	916
11.6	875	11.8	875
11.7	842	11.9	843
11.8	812	12.0	812
11.9	781	12.1	781
12.0	750	12.2	750
12.1	667	12.3	667
12.2	583	12.4	583
12.3	500	12.5	500
12.4	417	12.6	417
12.5	333	12.7	333
12.6	250	12.8	250
12.7	194	12.9	194
12.8	125	13.0	125
12.9	104	13.1	104
13.0	84	13.2	84
13.1	63	13.3	63
13.2	31	13.4	31
13.3	or	13.5	or
More	1	More	1

For all performances above the maximum add 30 points for each tenth second better than 11.3 to 1000 points.

FORM III

ACHIEVEMENT SCALES

Juniors		Sophomores	
11.5	1000	11.7	1000
11.6	970	11.8	970
11.7	916	11.9	916
11.8	875	12.0	875
11.9	843	12.1	843
12.0	812	12.2	812
12.1	781	12.3	781
12.2	759	12.4	750
12.3	667	12.5	667
12.4	583	12.6	583
12.5	500	12.7	500
12.6	417	12.8	417
12.7	333	12.9	333
12.8	250	13.0	250
12.9	194	13.1	194
13.0	125	13.2	125
13.1	104	13.3	104
13.2	84	13.4	84
13.3	63	31.5	63
13.4	31	13.6	31
13.5	or 1	13.7	or 1
more		more	

Above maximum, add 30 points for each tenth second.

Footwork and Co-Ordination of Play Around Second Base

(Continued from page 12)

side or stepping back away from the base and the man sliding in. To make this clearer to a young player, it could be stated as follows. The shortstop may catch the ball slightly to the rear, at the right of the base, step across his left foot with his right foot and tag the base, then step to his right, pivot and throw, or he may hop back to the right and then throw, or he may tag the base with his left foot, then step his right toward third, and pivot as he throws.

The Most Difficult Double Play

The most difficult double play to time correctly is the one involving a hard-hit ball to the pitcher which gets to him instantly. If the pitcher cuts loose with a throw over the base, the timing may be *too fast* to allow the shortstop or the second baseman to cover the bag. If he delays, it may throw off his accuracy. How can it be adjusted? One way is to have the pitcher throw to a spot about two or three strides ahead of the shortstop, as he approaches the base, and then he can *do one thing at a time*, namely, catch the ball, and then touch the base. If the pitcher throws to the base, the shortstop must do two things at once, catch the ball and tag the base at the same time, adjusting himself if the ball is low or wide, recover and get his throw away to first.

Other Co-ordination Tips

Talking to and Coaching Each Other. A good pair of players who can talk to or coach, each other is invaluable. They prepare one another to break up the attack of the opponents. This talking makes smooth action if there is a likely steal, clearly indicating as to who shall take the throw and as to who shall back up on the throw. It designates who shall stay in position on the next pitch while the other covers the bag, if there might be a hit-and-

run play. It clears, and makes smooth, the necessary action if there is a single with a runner on first who may try for third as explained earlier in this article. It makes it clear whether to play early or late game short infield positions. One experienced player who can talk can make the inexperienced player become efficient quickly.

General Rules of Position Play. If players can be guided by the general rules for playing their positions, they will become a smoothly working team. Rule One is to *play the ball and do not let it play you.* This makes aggressive fielding and pays dividends. Rule Two applies to double-play action. It guides as to the types of throws to be made. It is stated as follows: If you move straight toward the hit ball or toward the base in fielding it, you should toss the ball to your partner's heart and two paces ahead of him, but if you move away from your base, you must throw the ball, but throw it chest high because it can be easily seen, easily caught, and easily gotten away with speed.

Rule three—*practice diligently without horse-play* and remember that you will be able to have a *"clear head" for thinking under pressure* until you have made your footwork and techniques into skillful habits that allow you to do them without thought. This allows your head to become a "clear head" and you are free to think about "inside baseball" which is the thing that has caused many Americans to make baseball their life work.

A final tip may help and that is the idea that the lad who can think under fire is a trained athlete. In baseball he adjusts himself as he approaches the ball to field it, and as he approaches the base to take a throw. In basketball, it is the adjustment and timing as he approaches the basket to score a goal. If he is too close or under the backboard, he misses many sure scores. If he adjusts himself correctly, he is a "sure shot." In baseball, it is also the preparation of his mind and his partner's to play the next pitch. After each pitch, he has an interval in which to get ready for the new situation. So, the trained athlete is able to "think without confusion when under fire" and has a "clear head."

Boxing Department Facilities and Safety Gear

(Continued from page 15)

in the study of fundamentals. Article Four will show how limitation to specific blows in sparring sessions will speed up learning and prevent injury. Article Five will have methods of drilling and teaching the rapid development of the left jab and the correct methods for gaining and developing power in the straight right, and Article Six will have drills for the development of one of the beginners' weaknesses, footwork.

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A Review of Literature Pertaining to Running Events

By W. W. Tuttle
University of Iowa

SHORTLY, attention will again be turned to track and field competition. The review of literature presented at this time is confined to certain aspects of running, and especially to starting in the sprints. Reprints of several of the articles reviewed are available to coaches and trainers.

Westerlund, J. H. and Tuttle, W. W. Relationship between Running Events in Track and Reaction Time. Research Qr. 2: (Oct. 1931) 95-100. This experiment was undertaken in order to determine if there was any significant difference between the reaction time of those running the short races and those who specialized in the distance events. Speed in running, also, was correlated with reaction time. Thirty-two varsity track men were used as subjects. The group included three champion sprinters.

The data showed that the champion sprinters had a significantly faster reaction time than the other sprinters studied. In fact, the slowest responding champion had a faster reaction time than any other individual in the group.

The data also showed that the sprinters as a group had the fastest reaction time, while the middle-distance men were next, and the distance men were the slowest.

It was found that there is a high positive correlation (.863) between speed in running forty-five yards and reaction time.

Lautenbach, Ruth and Tuttle, W. W. The Relationship between Reflex Time and Running Events in Track. Research Qr. 3: (Oct. 1932) 138-143. This experiment is a continuation of the work reported by Westerlund and Tuttle, and was carried out in a similar manner except reflex time instead of reaction time was studied as a basic characteristic of runners. Twenty athletes, including two champions, were used as subjects. The data showed that there was a high positive correlation between reflex time and speed in running. The experiment also showed that the sprinters had the shortest reflex time, the distance men the longest, while middle-distance runners fell somewhere in between. The data seem to show that one of the prerequisites of a sprinter is a fast reflex time, but in the case of distance runners, this qualification is not so essential.

Walker, George A. and Hayden, Thomas C. The Optimum Time for Holding a Sprinter between the "Set" and the Stimulus (Gun Shot). Research Qr. 4: (May 1933) 124-130. This experiment was undertaken in order to determine the length of holding time on the marks which would give sprinters, in general, the greatest advantage in the start of the sprint race. Twenty-seven men varying in ability from champions to those who had had practically no sprinting experience, were used as subjects. They started the sprint a total of 4368 times, with holding times of 1.0 sec., 1.2 secs., 1.4 secs., 1.6 secs., and 1.8 secs. A summary of the data showed that a holding time as short as 1.0 sec. did not give the sprinter time to get ready, while if he was held as long as 1.8 secs., he was past the peak of readiness. It was concluded that 1.5 secs., was the optimum time to hold a sprinter in the "set" position.

Hayden, Thomas C. and Walker, George A. A Comparison of the Starting Time of Runners Using Holes in the Track and Starting Blocks. Research Qr. 4: (May 1933) 117-123. This experiment was carried out in order to settle any controversy which might arise relative to the advantage given a sprinter by use of starting blocks. The subjects used in the experiment included ten champion sprinters, eleven high-class sprinters, five men who had had some experience in sprinting and two exceptional athletes without track experience. The data showed, that without exception the starting blocks gave the sprinters a time advantage in getting off the marks. Even those who were accustomed to starting from holes in the track got started faster when they used blocks.

Bresnahan, George T. A Study of the Movement Pattern in Starting the Race from the Crouch Position. Research Qr. 5: (March 1934) Supplement No. 1. pp. 1-11. In order to demonstrate the sequence of movements which a sprinter follows in leaving his marks, electrical equipment was arranged so as to record the instant the contacts with the track were broken. Data were collected from twenty-eight right-handed sprinters, one left-handed sprinter and four who were ambidextrous. The right-handed sprinters followed the movement sequence of left hand, right hand, right foot, then left foot. The right-handed sprinters placed their right foot on the back block, and executed the movements in the order named, without exception. The sequence of the left-handed sprinter was right hand, left hand, left foot, then right foot. The left foot was placed on the back block, and the movements were executed as described. The ambidextrous group executed a mixed pattern with their arms, even though they always placed the same foot back. It is concluded that the sequence of movement in leaving the marks from a crouch position is reflex, depending on the handedness of the sprinter.

Dickinson, A. D. The Effect of Foot Spacing on Starting Time and Speed in Sprinting, and the Relation of Physical Measurements to Foot Spacing. Research Qr. 5: (March 1934) Supplement No. 1, pp. 12-19. This investigation was prompted by a lack of agreement among coaches as to where the feet should be placed relative to the starting line. The author investigated four types of starts which he designated (1) elongated, (2) medium (3) bunch or bullet and (4) natural. Data were collected from twenty-six trained sprinters, each sprinter making thirty-two starts. The data showed that the bunch or bullet start yielded a significantly faster starting time than any of the others while the elongated start gave significantly slower times. The other types of starts studied yielded starting times that fell somewhere between the bunch and the elongated. This research also showed that, when the bunch start was used, it took significantly less time to cover the first seven and a half feet of the sprint distance than when any of the other types were employed. The elongated start resulted in a longer elapsed time in covering the same distance. It was also shown that the distance which the front block should be placed from the starting line is independent of the type of start used, but depends on the height of the sprinter. The distance from the starting line that the back block is placed depends on the length of the leg and thigh of the sprinter.

Kistler, J. W. A Study of the Distribution of the Force Exerted upon the Blocks in Starting the Sprint from Various Starting Positions. Research Qr. 5: (March 1934) Supplement No. 1, pp. 27-32. This experiment was performed so as to have accurate information at hand relative to just how the sprinter distributes force against the blocks in starting a race. Up to this time, no experimental evidence had been published relative to this point. Thirty trained sprinters were used as subjects. Scales, modified to meet the requirements of the experimental conditions, were substituted for starting blocks. Each sprinter started ten times, each from four starting positions, that is, using the bunch, the elongated, the medium starts in addition to the natural start selected by the sprinter himself. The data showed the following:

1. Force is exerted by both legs regardless of starting position.

2. The force exerted against the front block is relatively constant, regardless of the type of start employed.

3. As the front-back distance between the blocks is increased, the force exerted against the back block is increased.

4. When the anterior-posterior distance between the blocks becomes approximately twenty inches the force exerted by the legs is equal.

5. When the anterior-posterior distance between the blocks exceeds twenty inches, the force exerted against the back block exceeds that exerted against the front block.

6. The total force exerted by a sprinter in leaving his marks varies directly with the anterior-posterior distance between the blocks.

Obviously, the question of how much force is exerted by a sprinter when he leaves his marks, and how this force is distributed between the two legs may be answered that it depends on his foot spacing.

Carson, Gilbert. The Effect of the Intensity of the Stimulus on Starting Time. Athletic Jr. 15: (May 1935). The experimenter used various caliber guns to start the sprint in order to see if the loudness of the report was an influencing factor in starting time. The guns employed were the "Scotch gun" (two boards), cap pistol, the 22-caliber, and the 42-caliber revolvers. Twenty-five trained sprinters were used as subjects. Each subject made twenty starts with each gun. The data showed that the intensity of the report of the gun is not a determing factor in starting time.

White, Ray A. The Effect of Hip Elevation on Starting Time in the Sprint. Research Qr. 6: (October 1935) 128-133, Supplement No. 2. The object of this experiment was to determine the effect of the angle of elevation of the hips in relation to the shoulders, on starting time. Twenty-four trained sprinters were used as subjects. The procedure was to allow the sprinter to assume his natural position on the marks in the "set" position. Using the natural hip elevation as a starting point, a position was selected lower than normal and one higher than normal. Each sprinter made twenty-one starts from each position. The data showed the following:

1. The natural position which sprinters assume is one in which the hips are elevated above the shoulders, the angle varying from four to eighteen degrees, the average being ten degrees.

2. When the natural angle is lowered so that the trunk approaches a position parallel with the track, starting time is significantly increased.

3. When the angle of elevation of the hips is increased above the normal, starting time is decreased.

Graflund, Fred A. A Study of the Correlation between Mechanical and Stop-Watch Timing in the Dash Events. Athletic Jr. 17: (September 1936). A comparison of stop-watch and mechanical timing in 320 dash and hurdle events gave a high positive coefficient of correlation. However, the stop-watch times were consistently less than the mechanical times by an average of .092 sec.

Cunningham, Glenn. A Study of the Discrepancy between Stop-Watch and Mechanical Timing. Athletic Jr. 17: (October 1936). The purpose of this investigation was to account for the one-tenth-second discrepancy between mechanical and stop-watch timing as found by Graflund. Ten men who were experienced timers in Big Ten competition were selected as subjects. The procedure was to measure the reaction time of the subjects to the firing of the gun and to the breasting of the tape. The mean difference between these two reaction times was approximately the same as the discrepancy between mechanical and stop-watch timing. It was concluded that since the reaction time to the firing of the gun was within the limits of what one would expect it to be, and since the reaction time to the breasting of the tape was far shorter than could possibly be conceived, the discrepancy is due to the lack of clarity of the stimulus to which the timers must respond at the finish of a race.

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Basketball Ratings Voluntarily Dropped by Converse-Dunkel, Co-operating with N.C.A.A. Message from President Smith Applauds Move

IN LINE with Converse Rubber Company's thirty-year record of stimulating better basketball throughout the United States, and after consulting with R. C. Dunkel, originator of the Converse-Dunkel Basketball Rating System sponsored by Converse, executives of the company contacted top officials of the National Collegiate Athletic Association and voluntarily offered to discontinue the publication of basketball contest ratings. While the system had been started in 1935 by Mr. Dunkel as a service to college basketball coaches, and at one time was actually sponsored by a college coaches organization, it was felt that, despite a carefully restricted mailing list, there existed the possibility that the ratings might get into wrong hands.

Upon being advised of the Converse Company's willingness to drop the publishing of ratings, Doctor Wilbur C. Smith, President of the N. C. A. A., accepted the whole-hearted and voluntary cooperation of both Converse and Dick Dunkel in the following wire:

"The Officials of the National Collegiate Athletic Association acknowledge the cooperation of the Converse Rubber Company and R. C. Dunkel, originator of the Converse-Dunkel Basketball Rating System, in voluntarily deciding to discontinue publishing team ratings. We appreciate that college coaches and athletic directors find the System invaluable but we concur with Converse that it is wise to eliminate all ratings to prevent them from possibly getting into the wrong hands.

"We consider Converse's voluntary action in line with the company's past record of contributing to the furtherance of better basketball."

Mr. S. R. Pletz, national sales manager for the sporting goods division of the Converse Rubber Company, stated: "It is our belief that Converse, over the past thirty years, has contributed substantially toward building basketball as a national sport through its Clinics, headed by such outstanding court experts as 'Chuck' Taylor and 'Bunny' Levitt . . . the Converse Basketball Year Book, now in its 23rd edition and currently being distributed among our service men in a special overseas edition. While we realize that the omission of ratings will be missed by college and service coaches, we agree heartily with the officials of the N. C. A. A., that their acceptance of our offer is in line with the best interests of basketball at this time."

Mr. Pletz pointed out, however, that the Converse-Dunkel end-of-the-season Summary will list all college and service teams with their individual Dunkel ratings for the 1944-45 season to enable coaches and players to gauge their team's performance alongside of competitive aggregations.

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The 1944 Fall Intramural Softball Tournament

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Awards by The Coca-Cola Company

Coaches and softball players,—last year we made an excellent start in staging an all-out nation-wide intramural softball tournament. Now we are ready for the results of this year to show whether we have doubled our first-year participation.

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(ENTRY BLANK)

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School name

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City **State**

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Note: If you have had a fall softball tournament and have failed to report it, do so at once.

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